A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Incorporating *International Commerce*

JUNE 12, 1972

Commerce Today

Coming Developments in Business and Technology

New, Old Business Fight Crime Costs

Newsmemo

Shippers using U.S. inland and coastal waterways will have an eye on the Commerce Department auditorium this week. Recommendations for an overhaul of Federal policies on domestic shipping, put together at a four-day conference in St. Louis last month, will now be presented to the Maritime Administration. Then it's up to MarAd, which is determined to foster an entire new look for the domestic shipping industry, to put them into effect.

U.S. businessmen, awed by Japan's thrust into the consumer goods markets of the world, just won't believe they can compete on sales to Japan's own consumers. But they can and should, they were told last month by a 25-man team of Japanese executives seeking to help redress the now-alarming tilt in the Japan-U.S. trade balance. The visitors were especially interested in getting smaller U.S. firms to send Japan processed foods, housewares, leisure, sports and hobby items, apparel lines, stationery, giftwares, toys and games. Japan's consumers, it was explained, are now ready to pay for wares that are new, advanced and different--particularly those with a "Made in U.S.A." label.

American industry is being asked to conserve energy again this summer. The Bureau of Domestic Commerce, proposing a number of ways to bring about the savings, is thus following through on a successful effort last year. Secretary Peterson, in a message to 50,000 companies and others in the business community, suggests 15 power-savers compiled by BDC as part of a joint public-private sector effort.

The State of Maine is explaining its international trade promotion program in basic terms: jobs for its people. The State's industrial commissioner is aiming to open up 20,000 new jobs in Maine by Mid-1974, and a quarter of these are to come from foreign trade and allied activities. The State is enlisting a group of 250 private businessmen called the Mark Mainers to aid in its trade and investment missions to Canada, Europe and elsewhere and to build up Maine's port and tourism activity.

The same basic jobs-in-export message comes from Mexico, too, but with a twist: it is aimed at the U.S., not at Mexicans. The American Chamber of Commerce of Mexico has released a report, which derives from an Arthur D. Little study, indicating that Mexican purchases of U.S. goods support many a U.S. paycheck (those of 29,500 industrial workers, it is stated). Says the Chamber: "The study provides concrete evidence that Mexico not only purchases sizeable annual dollar values of U.S. products, but that these exports contribute substantially to job creation in the U.S."

California's inventors received the highest number of patents for the eighth consecutive year during 1971, according to U.S. Patents Commissioner Robert Gottschalk. Of a total 81,543 issued for the year, Californians were awarded 7,750. U.S. inventors received a total of 58,693. New Yorkers received 6,453, New Jersey inventors, 4,652. The Federal Republic of Germany led foreign inventors with 5,586 issued.

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COVER: *Federal officials are utilizing a century-old, unused postal law combined with modern-day techniques to stop false advertisers and illicit mail order operators who cost the legitimate businessman and advertisers millions of dollars annually.* *See story on Page 4.*

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ECONOMIC
HIGHLIGHTS

Business Plant And Equipment Spending Continues To Spur Upswing In Economy

Economic Highlights is prepared by Dr. Harold C. Passer, Assistant Secretary for Economic Affairs, and is based on the latest economic indicators (see charts on adjoining page).

Ambitious business expansion and modernization programs continue to provide one of the most important forces for growth in the current economic upswing.

In the latest Department of Commerce survey, businessmen reaffirmed their projection of a gain of about 10½ percent for the year—a sharp contrast to increases averaging only about 3½ percent the previous two years. The latest total for 1972 is virtually the same as the report of three months ago, but there have been offsetting changes in the plans of some industries.

The rebound from last year shows up in even sharper focus when adjustments are made for price increases. In view of encouraging developments in capital goods prices (for example, machinery and equipment prices in May were only 2½ percent higher than a year earlier), the real gain in plant and equipment spending this year is likely to be in excess of 6 percent. This compares to a decline of about 4 percent in real terms in 1971 and no change in 1970. The real growth this year will at least match the gain in 1969 and it may turn out to be the largest since 1966.

Outlays for fixed investment usually are increased during a recovery period as sales and profits rise and production moves closer to capacity. In the current recovery, sales have improved, and businesses have more funds available for investment because of increasing profits and the accelerated depreciation regulations put into effect last year. The job development tax credit also is a continuing incentive for purchases of equipment.

The manufacturing sector in particular seems likely to boost spending significantly either late this year or in 1973. In the mid-1960s, percentage gains in capital spending by manufacturers clearly exceeded those of the non-manufacturing sector, but the situation has been reversed since then. Thus, a period of heavy capital spending may lie ahead for manufacturers now that industrial production has increased strongly over the past eight months and the percentage of capacity in use is rising.

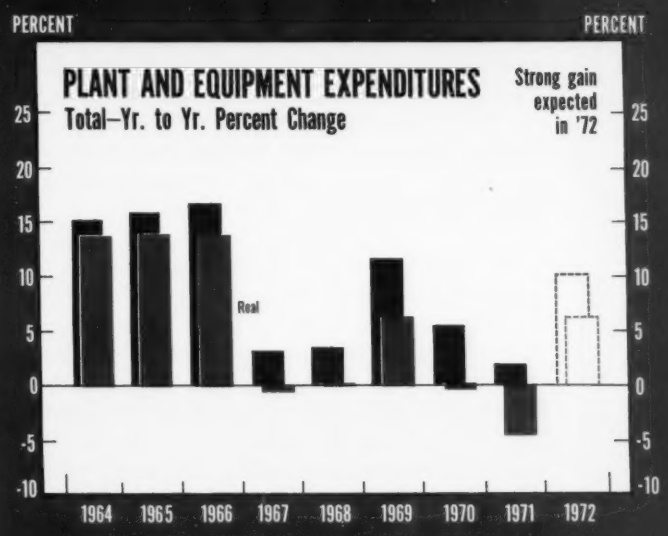
An unusually high proportion of business investment is being used for equipment rather than plant, and this is confirmed by the sharp uptrend in orders for producers capital goods since mid-1971. The high proportion of equipment probably results from the job development tax credit, which applies only to equipment, and from the continuing efforts to cut costs by modernizing productive facilities.

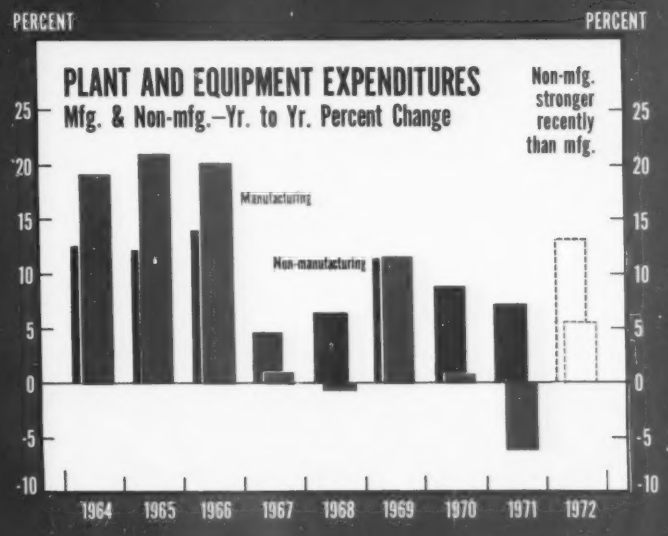
The large addition to our productive base in 1972 not only provides an important boost for the economy but also raises our overall economic capacity, increases productivity, and in the long run leads to lower prices, higher quality, and a better trading position for the United States in world markets.

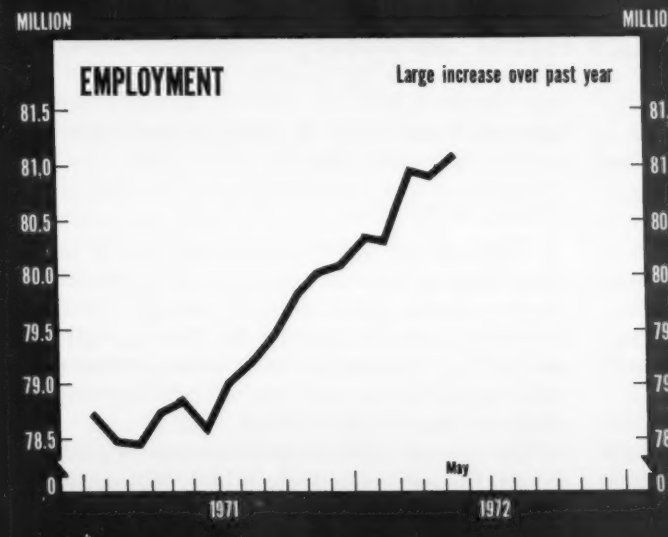
Other economic data

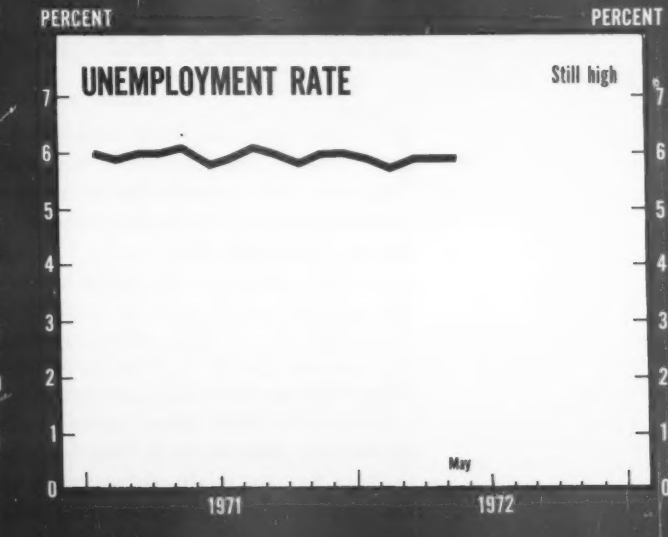
The leading indicators continue on a sharp and sustained uptrend, a signal of further strong expansion in the economy. The rapid growth in employment has been matched by an equally rapid growth in the labor force and the unemployment rate remains around the 6 percent mark.

Latest Indicators









All monthly data seasonally adjusted

Commerce Today
Vol. II, No. 18
June 12, 1972

Space Age Equipment, Century-Old Law Fight Business Crime Costs

Ancient Statute Used To Protect Integrity Today; Shoplifting, Burglaries, Fraud Security Tightened

Crime, a major expense of the 70s, is being attacked by government and private security forces in new concerted efforts to curb mushrooming cost to business and industry.

Federal officials are utilizing a century-old, unused postal law to stop false advertisers and illicit mail order operators who old, unused postal law to stop false advertiser millions of dollars annually.

The new federal effort, according to a Postal Service official, is a "major service and savings to any businessman who advertises (and this takes in a vast majority of the business community) or sells any product or service through the mail."

Crime costs rise

Public crime fighting costs are rising to such proportions that the business community has taken upon itself to develop new private security techniques for dealing with shoplifting, burglaries and other offenses that register crime as a major operating expense of today's businessman.

The cost of fighting crime nearly tripled in an 11-year period—to $10.1 billion in 1970, and continues to rise.

"We probably save the legitimate merchant who wouldn't think of cheating anybody more than we save consumers," asserts George Davis, head of the Postal Service's Consumer Protection legal division. "This is because the legitimate merchant and advertiser can be hurt by a customer getting stung by these illicit operators."

And fradulent mail order operators divert money from legitimate business.

Davis said the century-old law (29 U.S.C.-3007) permits his office to get a temporary restraining order against anyone who attempts to obtain money or property through the mails by misrepresentation. The restraining order stops mail delivery until a hearing is held and agreement reached to return all mail involved in the illicit scheme.

"It's a broad statute and the beauty of it is being abe to take effective action very rapidly," Davis continued. It was used effectively to stop a wig fraud in Pennsylvania, a grapefruit diet scheme and a worldwide scheme to bilk would-be medical students.

Medical experts

"Medical experts have long been opposed to excessive claims for a variety of grapefruit diets that find their way onto the advertising pages of some newspapers and magazines," according to Davis.

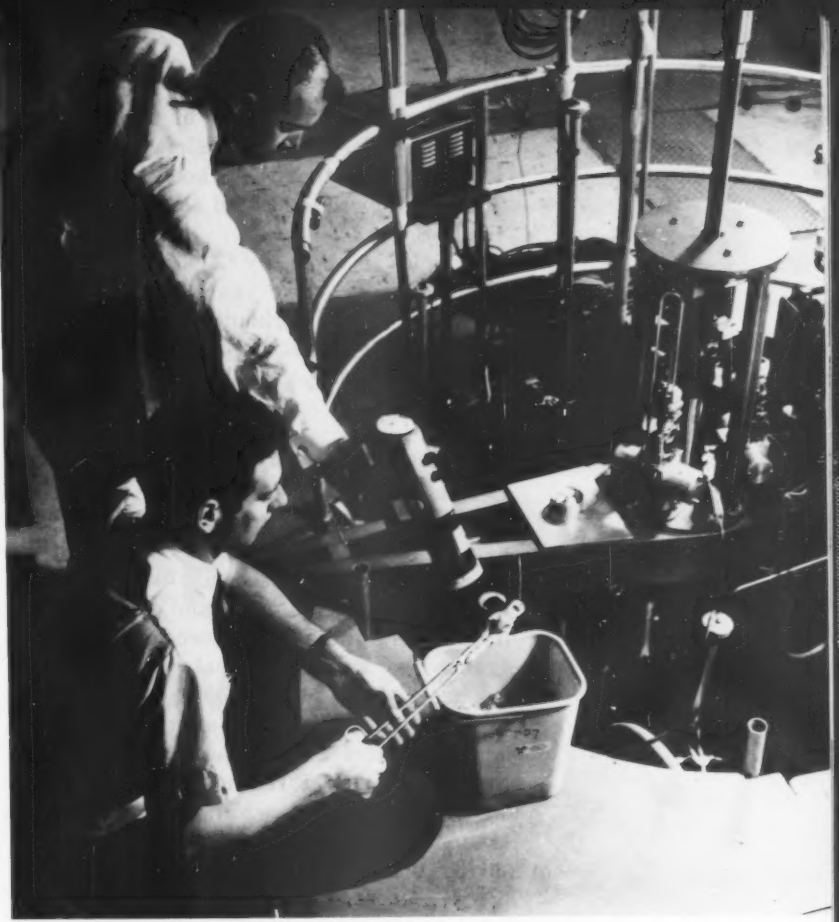
Although no complete figures are available, one grapefruit diet promotion had a mail draw of between 800 and 1,000 letters a day at its peak. Even at the modest cost of $2 a copy that single promoter took in as much as a quarter of a million dollars.

"When we get complaints the Postal Inspection Service conducts an investigation, using, where necessary, expert medical or scientific assistance," said Davis.

"If an investigation indicates a probable violation of the law, we file a formal administrative complaint with a hearing examiner, asking that an order be issued denying delivery of mail in response to a promotion," he continued.

"In certain cases," Davis added, "a U. S. district court is asked to detail a promoter's incoming mail until the administrative hearing is over." Most Postal Service complaints never reach the point where a formal hearing is necessary.

Out of 51 cases involving grapefruit diets, 38 promoters voluntarily signed formal agreements to discontinue false advertising claims.



ACE DETECTIVE—*Sherlock Holmes has been replaced by an atomic age "detective," known as neutron activation analysis. The method uses radiation to identify bits of evidence thousands of times too tiny to be detected by other means. Here a technician uses tongs to handle a plastic capsule containing gunpowder residue radioactive in an atomic reactor.*

In another case a North Carolina man in jail in Vienna, Austria, was cited by the consumer protection office for operating a non-existent medical school—American University College Medical school in Vienna—through an office at Cashiers, N.C.

College fee fraud

An order was issued that will stop Carl Julian Douglas or his agents from receiving mail as a result of the scheme.

Postal Service attorney Nancy R. Dorsch said Douglas "preyed upon the hopes as well as the pocketbooks of an as yet unknown number of young people, some of whom apparently lacked the qualifications to enter bona fide medical schools."

The application fee for Douglas' non-existent medical school was $100. Tuition was $3,400, of which $1,500 was demanded upon "acceptance."

At this time, three known victims each

paid Douglas $1,600. One of them came all the way to Vienna, Austria from Hong Kong to learn that the school did not exist. The other victims located so far came from the U. S.

Douglas is held by Austrian police on fraud charges. Two years ago he was ordred out of Switzerland for the same reason—operating his non-existent "American University College Medical School in Geneva."

Fight shoplifting

The rise in shoplifting and the simple fact that a businessman cannot buy insurance against shoplifting losses has given birth to to a new industry—security devices. Businessmen are turning more and more to security devices to fill a law enforcement gap that cannot be handled by local governments.

These devices range from simple gadgetry to highly sophisticated electronic surveillance monitors and two-way mirrors. One company manufactures an increasingly popular sensitized label which, unless removed or neutralized by a sales clerk, trips an alarm as the shoplifter leaves the store. Another popular label is nondetachable.

CRIME FIGHTER—*A weapon in the arsenal of U. S. law enforcement is this computerized system developed by RCA in the Cincinnati area. Andrew O. Atkinson, data processing chief at the Cincinnati Crime Information Center, displays a cartoon symbolizing the capture of a crook by the computer.*

While many merchants have installed security equipment, other stores are effectively utilizing detectives dressed to blend in with the crowd.

No store is immune to the damage of shoplifting and there is no accurate measure for the cost to business and its customers. Honest shoppers bear some, but not all of the costs of inventory shrinkage, as manufacturers, wholesalers and retailers are forced to add to prices to cover the staggering losses.

Moreover, 80 percent of all shoplifting losses are traceable to amateur thieves such as the regular customer from down the street, according to one Justice Department source. Only 20 percent of the shoplifting crimes are committed by professional thieves.

The trucking industry reported that truck cargo hijacks last year accounted for only 20 percent of the $1.5 billion lost annually in transportation crimes.

Reduce thefts

One industry utilizing private security and government law enforcement cooperation to reduce thefts is the air cargo transportation industry. Cargo thefts at three metropolitan airports in New York were cut to a five-year low in 1971, according to Joseph A. Sullivan, executive director of the Airport Security Council.

Despite the fact that the volume of air cargo shipments almost doubled since 1966, the air cargo industry's self protection program reduced losses from thefts nearly 18 percent below 1966 levels. Sullivan said 13 cents of every thousand dollars in air cargo value went to thieves in 1966, while only six cents went that way last year.

The improvement is the result of cooperation among airlines, U.S. Customs, law enforcement agencies and the Airport Security Council, he said.

A recent study made for the Justice Department showed the cost of private security services increased by 150 percent from 1960 to 1969. And private security accounted for $3.3 billion or 38 percent of the total spent on public and private security in 1969.

In addition to its support of law enforcement at all levels of government, private security development is the business community's further contribution to cutting the crime rate.

U.S. Companies Turning To Overseas Licensing Of Industrial Know-How

This Approach To World Markets Is Considered 'Middle Way' Between Export, Foreign Investment

Worldwide trends toward economic nationalism and resulting coolness to foreign owners are now turning U.S. businessmen to reexamine the advantages of international licensing of patents and other industrial know-how, Commerce Department trade specialists are observing.

"Licensing and management contracts offer a 'low profile' approach as contrasted to direct foreign equity investment. They are also regarded as a 'middle way' of retaining foreign markets—a step beyond simple exporting, a step short of overseas production," explains S. David Horner of the Office of International Investment in the Bureau of International Commerce.

Some of the most frequently cited specific reasons for a firm's agreeing to have its products manufactured in another country by someone else are:

► It provides an entree in foreign markets without as large a capital outlay as that required for a direct investment;

► Royalty taxes usually are lower than corporate taxes on business conducted through a permanent establishment;

► A firm can establish its trademarks and maintain its foreign patent rights abroad through licensing arrangements;

► Licensees can explore the foreign market for a product, saving a U.S. firm money which might otherwise have been invested unwisely;

► Licensing can provide a two-way exchange of technology; the U.S. firm provides the basic know-how and the licensees often develop significant improvements; and

► It is a means of complying with governmental restrictions, both domestic and foreign, on overseas investment without entirely giving up market presence.

For the small or medium-sized firm limited in financial and staff resources, licensing may prove to be the most feasible approach to entering or protecting an overseas market.

A number of large companies with extensive overseas interests also have adopted licensing as a primary or alternative means of maintaining or supporting their worldwide market coverage. Their aims include: to provide a two-way flow of know-how; to build up a trading position, or to obtain the

technical services of an individual or group unattainable in any other way.

Other firms have reasons for preferring licensing arrangements based on the countries and industries involved, and still others may deliberately choose licensing as a revenue earner. Licensing is particularly apt in industries where the weight or volume of the products militates against export but manufacturing techniques constitute a profitable export. Often, competitive licensing actions by enterprises in other major industrial nations force individual U.S. firms to license abroad.

Some disadvantages

However, firms considering entering into licensing arrangements should be aware of potential disadvantages.

First, it should be realized that every licensee is a possible competitor. To minimize adverse consequences both parties should make every effort to negotiate a truly beneficial arrangement calling for a continuing exchange of technical know-how and product improvements.

In some circumstances, the type and age of the know-how divulged may be of key significance. For instance, some foreign licensees may be interested only in the latest technology, whereas others may prefer equipment or processes that may be less advanced but have the virtue of demonstrated reliability.

Some American licensors have protected their interests in overseas licensing situations by acquiring an equity option in the licensee's enterprise. Other licensors consider the acquisition of the U.S. rights of a foreign company to be of prime importance in entering a licensing agreement and stipulate in the contract a reciprocal granting of licenses.

In the average licensing situation, the licensor only has a limited control over the licensee's operations. To safeguard its reputation and trademark, the licensor should make a careful investigation before selecting a potential licensee. It is also important that the licensor maintain quality control whenever a trademark or trade name is licensed.

Furthermore, the profitability of licensing seldom begins immediately. One company executive has said that "no licensing agreement begins to pay off until it has been in operation for a minimum of five years or so." Other companies put the development period at around two to three years, but agree that net losses may be experienced in the initial stages. There is general agreement that licensing is a long-term effort.

Licensing, as currently practiced, is of relatively recent origin. It grew rapidly during the early 1960s. Because of the greater growth potential of equity investment, there was a significant reduction of pure licensing arrangements during the latter years of the decade. But the effort to comply with U.S. overseas investment restraints and growing economic nationalism abroad has rekindled interest. Meanwhile, many foreign firms have emphasized their receptivity to U.S. licenses as a means of bridging the technology gap.

The task of locating licensees, negotiating agreements and policing them can involve much time and expense. Specialized licensing companies have been established to help potential licensors. Their approach varies.

Companies aid licensors

An example of a firm offering a full range of licensing services is REFAC Technology Development Corp., New York. Its founder, Eugene M. Lang, has developed guidelines that reflect his clients' experiences. He cautions:

- Don't give your licensee unqualified access to new developments and improvements or the right to seek patents on his own initiative;
- Don't assume that you can properly license the use of your trademark. Some other form of extending user rights may be necessary to safeguard your proprietary interests. Reserve the right to revoke use of a trademark if the licensee makes an inferior product;
- Don't warrant the validity of patents which you license or blindly agree to attack alleged infringers;
- Don't get involved with a licensee until you are absolutely certain he knows your particular line of business;
- Don't set up license conditions that involve you in the management prerogatives of a licensee. Your job is to help but not to make decisions for the licensee, even if he wants you to;
- Don't give up all control over the manufacture and marketing of your product abroad;
- Don't assume that the specifications used in your organization can be followed abroad;
- Don't think that mere agreement be-

LICENSING DISCUSSION—*Morris Fram, president of a Sun Valley, Calif., plastics equipment firm, discusses licensing details with Dutch businessman Ted Helsloot (right) at an exhibition at the U.S. Trade Center in Paris. Commerce Department shows abroad can bring licensing partners together.*

tween you and the other party completes the deal—government approval is often required;

- Don't assume that a large royalty or a large minimum royalty guarantee means anything if the licensee isn't economically sound;
- Don't assume that your know-how, no matter how complex or expensively developed, is priceless or cannot be copied. Any company can develop a product or technique if the potential profit is sufficiently attractive.
- Don't think that, just because agreement has been reached and a set of blueprints transmitted, you can sit back and wait for the profits to start rolling in. Continuous follow-through is essential; and
- Don't take anything for granted! Ever!

The Miami-based Dr. Dvorkovitz & Associates uses a computer to correlate licensable technologies with the interests of its clients in the pharmaceutical, chemical and process industries. Incoming data is coded for ready retrieval, along the lines of subscribers' interests. A print-out carries a description of a licensable process and its main uses, outlines the current worldwide patent status, lists countries open for licensing, and offers other relevant data. The clients, who get all current licensing opportunities in the categories they select, can also retain the firm's negotiating services on a first-refusal basis.

A somewhat different approach is being used by a Los Angeles firm, International Advancement. After two years of preparation, the company has recently started the bi-monthly *American Bulletin of Licensing and Joint-Venture Opportunities,* which screens and lists products and services available for licensing and joint ventures in most countries, including those in Eastern Europe. Identification numbers rather than names are given with the published proposals. Subscribers get the company names after they contact the Los Angeles firm's clearinghouse.

International Advancement is now making a survey of international licensing agreements, and invites companies to participate by providing information on their arrangements abroad.

Banks also involved

Some U.S. banks foster licensing activities. Through its publication, *International Profit Opportunities,* the international department of Equitable Trust Bank, Baltimore, for example, brings trade, licensing and investment proposals to the attention of its customers, and alerts readers to significant developments in the international field.

Technical publishers are also involved. Designed to acquaint prospective licensors with products and processes in the international technology field is *Technology Mart,* issued by Thomas Publishing Co., New York. The magazine publishes descriptions of products and technologies available for license without identifying the offering companies. Inquiries from interested subscribers are forwarded to the firms originating the proposals. Companies searching for new prod-

ucts to manufacture under license can also utilize *Technology Mart*.

An organization concerned with problems related to licensing is the Licensing Executives Society, an international group with approximately 1,200 members, the majority of whom are executives with major U.S. firms responsible for the licensing activities of their companies. Lawyers, consultants and other businessmen involved in licensing also belong to the society. The organization sponsors seminars and conferences which focus on various aspects and problems associated with international licensing.

Commerce's Office of International Investment, in offering these examples, is interested in learning of the activities of other private organizations in the international licensing fields. The names and specific services offered by such firms will be made available to potential licensors requesting sources of such assistance.

Government assistance

At the same time, the Office of International Investment is available to assist U.S. firms interested in identifying licensing opportunities abroad.

Initially, a firm may be referred to the Department's Trade Lists and Automated Trade Lists which contain the names and addresses of foreign firms known to be interested in closer ties with American manufacturers. The foreign concerns are listed by commodity interest and other pertinent data about the firm's operation is also enumerated. These lists are based on information contained in World Trade Directory Reports (WTD's). Prepared by U.S. Foreign Service officers, WTD's give basic business and financial background on individual foreign firms.

For those U.S. concerns that have narrowed their licensing interest to specific countries, Trade Contact Surveys undertaken by commercial officers at American Embassies or Consulates will help find specific local firms interested in the licensing proposal and able to meet the American manufacturer's requirements. The names and qualifications of the foreign companies are transmitted to the U.S. firm for direct follow-up on an individual basis. WTD's are provided on the prospective licensees.

Through Commerce's Commercial Newsletter Service a U.S. firm can directly advertise its licensing proposal in the foreign business community. Commercial Newsletter material is transmitted monthly to nearly 100 U.S. Foreign Service posts. It contains items about international business activities and trade for redistribution in each local area. The service devotes a special section to licensing announcements. Interested foreign companies can follow up directly with the U.S. firm. There is no charge.

For further details about Commerce Department services to businessmen in the field of international licensing, interested American companies can write: Bureau of International Commerce, Office of International Investment, 878, U. S. Department of Commerce, Washington, D. C. 20230. Telephone (202) 967-4065.

Cooperating closely with Commerce in its effort to identify suitable foreign licensees are commercial specialists at U.S. Foreign Service posts who submit a steady flow of licensing opportunities on behalf of foreign enterprises.

In 1971 about 800 opportunities were published in *Commerce Today* and disseminated by industry trade associations and similar organizations. In addition, the opportunities are listed in the Department's *Foreign Production and Commercial Report Index* which lists reports sent to Commerce describing overseas business activities.

Numerous U.S. firms have made their overseas licensing interests known to OII, and these companies are normally alerted to foreign proposals falling within their commodity range. The Department can also furnish materials on the subject of customs, tax and legal information including guidance on the protection of industrial property rights abroad.

The Overseas Private Investment Corporation (OPIC) encourages investments by U.S. firms in many of the world's developing countries by insuring investors against certain political risks. Investment in the form of a licensing agreement for the use of patent processes and technical know-how in exchange for royalties will usually qualify for such insurance. Information on OPIC programs can be obtained from the Overseas Private Investment Corporation, 1129 20th Street, NW., Washington, D. C. 20527.

—Bureau of International Commerce

Private Purchasers Act To Increase Minority Firm Sales Nationwide

Corporations Beginning New National Program To Increase Procurement From Small Businesses

Those who manage, operate and own the corporations in the United States are making increasing contributions in a critical area of need—assisting in minority enterprise development.

Now they are taking another step—instituting a policy of private business procurement from minority firm suppliers.

Members of a broad cross-section of the industry are developing a National Minority Purchasing Program, the objective of which is to bring together the resources of Government and private enterprise to provide greater access for minority firms to the $350 billion inter-corporate marketplace.

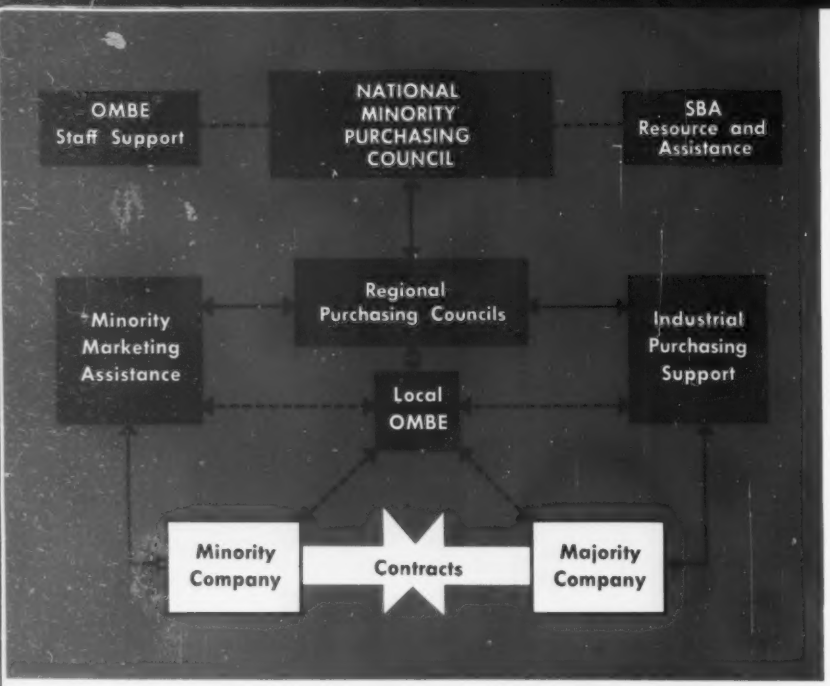
Commenting on the insignificant fraction of this multi-billion dollar business shared by minority firms, Secretary Peterson in announcing the important beginning to the new program—the formation of the National Minority Purchasing Council—said that this disparity must change.

And he added, "One of the goals of President Nixon's minority enterprise program is to expand the market and the jobs of minority businesses by increasing opportunities for them to do business with established corporations."

The Commerce Secretary noted that many minority enterprises "have the capital and the know-how. What they need now is access to the huge untapped market of America's corporations."

Robert Stuart, chairman of the board, National Can Co., Chicago, Ill., is chairman of the new Council. Stuart recently initiated the minority procurement program within his own company. National Can is one of two Chicago companies to invest $100,000 each in Chicago Community Ventures, Inc., a Minority Enterprise Small Business Investment Company. Stuart will serve on the board of directors of this MESBIC, which is planned for licensing in the near future.

Phillip Drotning, director of Urban Affairs for Standard Oil of Indiana, is vice-



Robert Stuart
Chairman of the Board
National Can Co.

chairman. The plan for the National Minority Purchasing Program is patterned on a successful program initiated by Standard Oil of Indiana to bring minority vendors into the mainstream of corporation buying.

The thrust of this new program will be the adoption of corporate policies emphasizing the purchase of goods and services from minority-owned companies.

The emphasis of the program itself is not new. Many major corporations are already actively involved in buying from minority firms, and over the past two years, the Federal Government has stressed procuring supplies from minorities. What is new, according to Walter L. Sorg, Assistant Director of the Commerce Department's Office of Minority Business Enterprise, is "the urgency to develop a national program within the private sector to compliment the Federally sponsored 8(a) Program."

OMBE cooperation

Sorg said that OMBE is cooperating with industry to put the program in motion.

Section 8(a) in the Small Business Investment Act of 1952 authorizes the Small Business Administration to act as a prime contractor for other Federal agencies for certain of their needs for the purchase of goods and services. Eight(a) allows the SBA to subcontract with socially and economically disadvantaged small business concerns on a negotiated basis.

Although this section of the 1952 Act was little used until two years ago, in 1969 it was identified as an important vehicle to open Federal marketing opportunities for minority businesses. As a result of section 8(a) as of June 30, 1971, the program resulted in a total of almost $100 million of Federal purchases of goods and services from minority suppliers. During this same period, direct minority procurement has risen from $3.8 million in fiscal 1969 to $75 million in fiscal 1971—a clear indication that many minority businessmen who were given assistance through the 8(a) program have developed capabilities to compete in the open market.

The success of this program has caused the private sector to realize that it can open up market opportunities for minority firms by developing a national program which will unlock the purchasing doors of industry to minority businessmen.

The Small Business Administration itself is enthusiastic about the new program being begun in the private sector and has offered its input through resources materials being developed on minority vendors on a national scale, as well as any other assistance.

While business and industry have committed themselves to assisting minority enterprise, in actual practice the purchasing of goods and services from minority businesses has not fulfilled the hopes of the private sector. Since purchasing managers are judged in terms of the dollars saved in their companies and corporations, they have had no

incentive to launch strong campaigns to buy from minority firms. The new National Minority Purchasing Program will provide this incentive.

The major objectives of the program will be to:

- Assist corporate purchasing departments to identify capable minority suppliers.
- Assist minority firms in qualifying as corporate sources of supply.
- Develop regional profiles of the capabilities of minority firms.
- Develop and refine minority business directories.
- Develop guidelines that will enable corporations to purchase from minority firms with a minimum diversion from their normal purchasing procedures.
- Help match minority firm capabilities with corporate requirements.
- Persuade corporations to set specific dollar goals or to set other policies for improving minority purchases and to establish internal reporting procedures to evaluate progress toward these goals.

Setting dollar goals for improving the minority purchase picture in the corporations not only will give purchasing managers the stated company policy to follow, but will eliminate the conflict within which they are presently caught—equating social action objective with corporate objectives. Goal setting and reporting utilizes the corporate structure to solve the problem.

Under the programs, purchasing managers will be able to establish their own goals to improve the amount of the minority firm purchases over the next year. These managers will then be able to be judged on these goals as well as on their overall performance.

The program itself is designed in three tiers. 'Phase One' has been initiated with the creation of the National Minority Purchasing Council, which will provide a national forum for the articulation of the problems that retard the growth and success of minority business enterprises.

This council will also be used as a central focal point for planning the strategy and formulating the policies which will banish many of the existing problems so that the products and services of minority-owned firms may be fully utilized within the intercorporate marketplace.

Besides Stuart and Drotning, the members of the steering committee, who are also the charter members of the National Council include Lt. Col. Theodore A. Adams, Jr. (Ret), President of the National Association of Black Manufacturers; Eugene E. Schultz, Purchasing Manager of Union Oil of California; Alfred E. Jones, president of the National Association of Purchasing Management; Augustine R. Marusi, president of Borden, Inc., and Berkley G. Burrell, President of the National Business League.

Membership on the National Council will consist of the presidents, chief executive officers or vice presidents of major corporations, industry trade associations and national business development organizations with demonstrable achievements in the development of minority business enterprise.

Plans are underway at the present time to expand the current membership of the National Council to include representatives from a broad range of industry fields.

To implement the plans and decisions of the National Council, immediate plans call for 12 target area regional purchasing councils to be organized in strategic areas of the country—in New York City, Detroit, Chicago, Atlanta, Phoenix, Los Angeles, San Francisco, Houston, Kansas City, St. Louis, Dallas, Cleveland and Columbus. These regional councils with the cooperation of OMBE Business Resource Centers or affiliate

STARTING THE JOB—*Secretary Peterson met with the National Minority Purchasing Council last month. Shown from left are John L. Jenkins, Director, Office of Minority Business Enterprise, Alfred E. Jones, National Association of Purchasing Management; Robert Stuart, council chairman, Peterson, Phillip Drotning, Standard Oil of Indiana, Theodore A. Adams, Jr., National Association of Black Manufacturers; and James T. McCrory, Borden, Inc.*

offices of OMBE will be the tools which put the program in action. Each regional Council will be a mirror image of the National Council at the local level.

The target area councils will be chiefly responsible for:

- Implementing the policy of the National Minority Purchasing Council at the local level.
- Profiling the capabilities of target area minority firms—compiling minority-owned business directories.
- Developing purchasing guidelines for the target area.
- Sponsoring procurement seminars and workshops.

Sorg believes that geographically these councils will have to be expanded as the program becomes entrenched within the corporate structure and minority capabilities are identified and made known.

Eventually these regional councils will be expanded to cover 50 major cities in the country.

The regional councils, like the National council, will draw their membership from corporate or organization officers capable of influencing corporate policy and implementing purchasing policies, to provide industrial procurement support to the committee and the majority corporate community. Regional council members will also include persons capable of providing management and technical assistance to minority firms and those who can identify minority capabilities. These individuals will provide marketing assistance to the council and the minority-business community. Regional council chairmen will also automatically become members of the National council.

The local OMBE representative or Business Resource Center official will provide staff support and be responsible for coordinating the activities of the target area council and its members.

That the job to be done is an important one is emphasized by Council Chairman Stuart. "But," he said, "it can only be done by the private sector.

Stuart noted that several corporations have already demonstrated successful techniques that can be applied successfully to bring minority-owned enterprise business. He also explained that business is ready to respond, in fact, is anxious to assist in this type of an endeavor.

"The new Minority Purchasing program will show them how to do it, setting up policies that include accountability for the results right down to the firing line."

It is hoped that after the program has been functioning smoothly 'Phase Three' will actually be a phase-out operation, enabling the buyers (the corporations) and the sellers (minority businesses) to consumate normal business deals with each other.

—Office of Minority Business Enterprise

HELPING MINORITIES SALES—*The National Minority Purchasing Council will increase the use of minority owned vendors and services. Technical and management assistance will also be given. Here Joseph R. McLaughlin (right), manager, Northeast Region, Container Division, St. Regis Paper Co. is shown giving assistance to John E. Whitted owner of Larstone Corrugated Carton Co., Pittsburgh.*

Experts Pool Knowledge To Provide Economical Answers For Business

Systems Analysis, Atmospheric Models Used To Help Abate Nationwide Urban Problems

Pooling expert knowledge in many fields, the Technical Analysis Division (TAD) of Commerce's National Bureau of Standards is attempting to provide the most effective and economical answers to many practical problems faced by business leaders and community officials.

Included are decisions dealing with the most desirable sites for municipal facilities such as police stations, schools, playgrounds, and transportation terminals, how many fire stations a community needs and where they should be located, the number of ambulances a community requires and will need in coming years, and similar information. The Division relies on computers to a considerable degree.

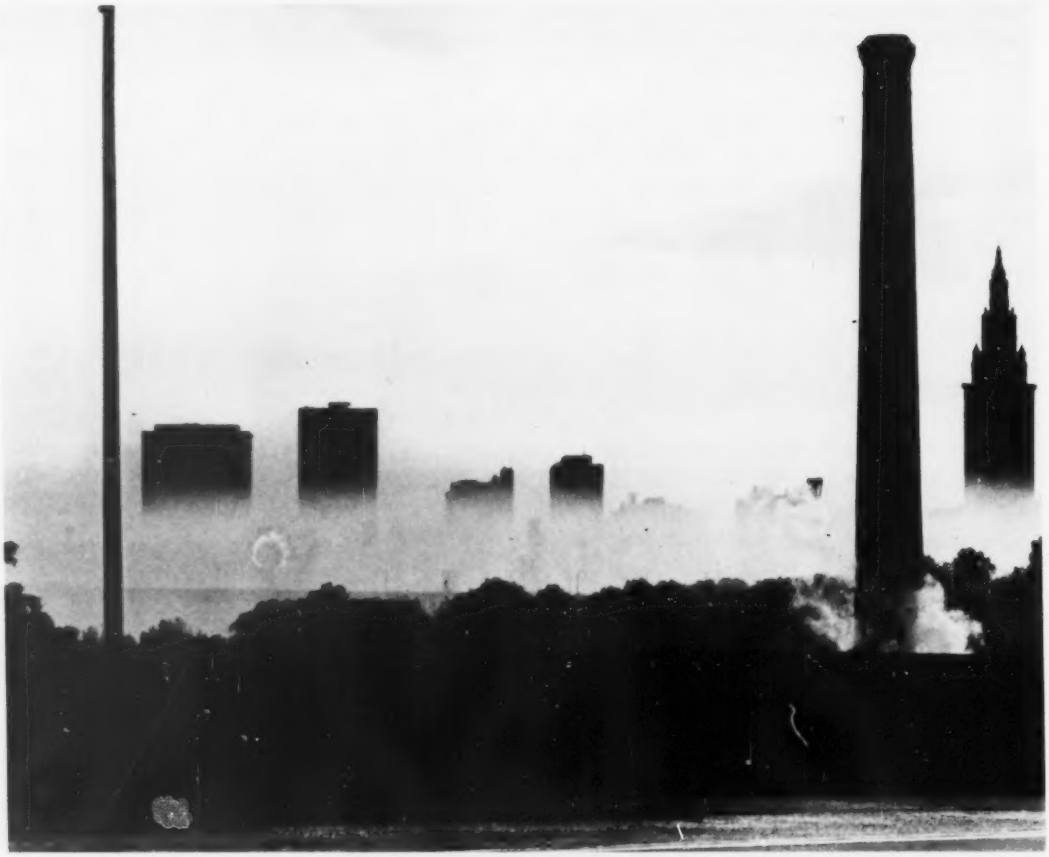
The agency's responsibilities branch out into many other areas. It is engaged in the analysis of problems in various fields, ranging from reducing errors in sorting mail to the safeguarding of nuclear materials.

As an example of its community assistance work, it has been concerned with determining where to locate air samplers in an area to obtain data on pollution concentrations.

One of the problems encountered in efforts to reduce air pollution is collecting significant information about atmospheric contamination in a community, such as the points of greatest concentration, average concentrations, the changes that occur in different seasons, and the effect on the community.

Most desirable locations

The work on air samplers is an outgrowth of the expansion of the National Air Sampling Network, established in 1953 by the Public Health Service. The number of participating cities, and contributing State and local stations, has increased greatly. Beginning in 1967, the Network began accepting



CITY DILEMMA—*Smog consisting of dangerous pollutants is the dilemma of many U.S. cities. Using atmospheric models, TAD is able to determine the geographic spread of pollutants under study.*

data from multiple sites in a single community. TAD's contribution is determining the most desirable locations for samplers in cases where more than one sampler is installed in a particular area.

Scientific decisions as to where pollution testing stations should be located are of major importance to urban areas because of the limited number of samplers generally available for placing in any area.

TAD's approach has been to project pollution concentration patterns as the output of a computer-operated atmospheric diffusion model for the city. Into the model is fed information on emission of pollutants, meteorological factors such as wind direction and speed and atmospheric stability for the season under study, and population. With such information, the model indicates the geographic spread of each pollutant under study. If actual information is available on pollution concentrations, the model scales can be readjusted to coincide with it.

From the calculated data, projected concentration contours can be plotted on maps for each pollutant or combination of them for specific seasons. A band can be identified that shows pollution concentrations within a given amount of the mean level or other chosen level throughout the area. The contour maps for each pollutant and season are then superimposed on each other, and sampler locations are selected at points where the contours or the bands overlap or intersect. In this way, locations may be chosen to satisfy multiple objectives.

Extending the studies

TAD's air sampler location procedure has been applied experimentally to the Buffalo, N.Y., Air Quality Control Region, and proposals have been made for an extension of the studies to several other regions and also for placing samplers in relatively unpopulated areas to provide comparative information.

The basic approach upon which the agency relies in reaching its determinations is systems analysis, which Louis C. Santone, TAD's Deputy Chief for Project Operations, de-

SAMPLING STATION—*George Walsh, of the District of Columbia Air Pollution Division, inspects filters at an air sampling station. Recent National Bureau of Standards studies have been concerned with determining the most desirable sites for locating samplers to get data on pollution concentration.*

scribes basically as "using analytical means to solve problems."

Santone defines the essential elements of the systems analysis method as: problem definition, which involves going into the heart of the matter and developing all the ramifications of a problem; "boundary definition," or a decision as to the limits in which a problem is to be investigated; an estimate of the resources available for working on the problem; the criteria under which a problem is to be evaluated and alternative solutions; a model or some representation of the relation between the alternative action and the possible impact; a choice as to which alternative is to be used; and implementation of the chosen solution.

Choosing among the alternatives and implementing the chosen solution, Santone points out, are two major difficulties in the solution of any social problem since the decisions on these points are up to the people of the community. They must debate the thing through and arrange for the funding if any is needed. Systems analysis provides the factual base upon which more informed public debate can take place.

Systems methods

TAD's mission is to assist agencies of the Federal, State and local governments to use the systems approach in providing services for the public. The approach was developed by the military, and has been used by the military, space and commercial communities for 30 years. Many persons have insisted that systems methods should be employed in nearly all operations involving the management of public business, and a number of Federal agencies have begun to use these techniques.

The Bureau of Standards enabling act permits TAD to perform tasks for Federal, State and local agencies and professional associations on a reimbursable basis. About 80 percent of the agency's work is supported financially by sources external to the National Bureau of Standards.

The basic objective of TAD is to see that systems analysis eventually will reach its optimum contribution to the solution of public problems. In many cases, it is able to develop a set of procedures that can apply to particular situations, and thus deal with classes of problems as well as individual problems. In this and other ways, it can extend its work into areas where the systems approach has not been used before. Thus TAD is conducting a program of service, research and missionary effort.

Essentially, the agency attempts to obtain all valid information about a problem, often from the people directly involved, arrange the information so that logical solutions can be achieved, and by mathematical calculations arrive at the implications of alternative solutions, taking into account what can be done and the objectives desired.

In carrying out its mission, TAD works jointly with personnel of the sponsoring agency and its commercial contractors, with preference for about a 50-50 mixture of TAD

and other agency people working on a project.

The agency was set up in January, 1965, under the direction of Dr. W. Edward Cushen, who still heads the operation. By July, 1971, the original staff of 12 had expanded to 160. Included on the staff are operations research analysts, mathematicians, economists, psychologists, engineers, sociologists, lawyers, computer specialists, and anthropologists.

An example of TAD's work on everyday urban problems is a project in East Lansing, Michigan, involving a determination as to the number of fire stations needed by the city. East Lansing was dissatisfied with a study that showed that four fire stations were needed.

Gathering data

TAD involved the city people in gathering data and acted as a technical coach in the use of the desired techniques. A simulation model was developed that projected fire protection needs for years in the future. The conclusion of the study was that three fire stations were needed. More specifically, the finding was that the fire station on the Michigan State University campus should remain there, that the East Lansing municipal fire station should be moved to a site northwest of its downtown location, and that a third station should be built to serve the southeast portion of the city.

An important element in the study was that the city people did the basic work, and believed the findings because of their own participation. The project demonstrated that the professional staff of a city, with some assistance, can similarly apply the techniques of systems analysis to arrive at the most desirable solutions.

Another example was the development of a plan for ambulance service in Fairfax County, Virginia. The object was to work out an arrangement of ambulance locations that would result in a low average time within a specified maximum time for going from the ambulance station to the patient, picking him up, and carrying him to the nearest hospital. Gathering a mass of data,

RESCUE SERVICES—*Development of a plan for ambulance service in Fairfax County, Va., was designed to work out an arrangement of ambulance locations that would minimize the time for going from the ambulance station to the patient, picking him up, and carrying him to the nearest hospital.*

including information on the local highway network and on areas where demand for ambulance service probably would be greatest, TAD analysts developed a model showing the response time implications of alternatives as to the number of ambulances and stations required, and the location, in the coming decade. This procedure would allow the community to decide which of the alternatives to accept.

Project Phoenix

For more than a year, TAD has been involved in Project Phoenix, a fire service study which is concentrating on four problem areas: (1) resource allocation in fire departments, including equipment analysis; (2) fire statistical analysis; (3) management information systems; and (4) analysis of public reactions and attitudes toward fire departments. This work is part of the Institute for Applied Technology's fire program.

In studying resource allocation, an effort is made to determine more efficient ways of performing essential tasks involved in reducing life hazards and property losses from fire. In one project, fire station location models have been developed and are being tested for a package of computer programs and manuals that cities may use in determining where to locate fire stations. In another area, equipment analysis will make it possible to estimate more accurately the usefulness of a piece of equipment and to decide whether nonfunctioning equipment should be repaired or replaced.

Fire statistical analysis extends earlier work in the study of fire patterns in space and time, and as correlated with local economic and social considerations. Involved also are studies of firefighting effectiveness and an analysis of fire losses. Both a theoretical and a statistical model are being prepared to analyze fire behavior and fire department effectiveness. This work is expected to provide valuable information on the importance of time in fighting fires.

Manning companies

Management information systems are being developed to help fire departments plan for future growth and to evaluate such things as the adequacy of fire prevention activities, the manning of companies, and equipment capability, numbers, and assortment. These systems are the instruments for applying the resource allocation models. Members of the TAD staff are working with the city of Boston in applying resource allocation models there.

In the area of public attitudes toward fire departments, firemen often are plagued by false alarms and harassment, particularly in large cities. Thus it is important to analyze the causes and identify the means that will remedy this problem. Workshops are being held across the country to point up promising programs and to appraise their effectiveness. A survey is planned to determine community attitudes toward fire departments. These efforts are expected to shed light on the seriousness of the problem, and on the effectiveness of human, community and public relations in reducing it.

Another area in which TAD has worked is the problem of crimes committed by persons while they are out on bail as a result of previous charges. The agency made a study of this problem in the District of Columbia. Selecting four weeks in 1968, TAD gathered information on recidivism from 36 sources, including files of the U.S. attorney, court clerks, the magistrate, the grand jury, the bail agency, the jail, the Federal Bureau of Investigation, and probation officers. The study showed that, during the period in question, 11 percent of the persons arrested for felonies and misdemeanors in the District were rearrested and charged with other crimes while out on bail.

Defining the problem

"Of primary importance," Santone explained, "in using the systems approach to deal with urban or other problems is the definition of the problem. This is usually different from identification of the problem. We identify a problem, for example, when we learn that if children eat leaded paint they will be poisoned. Problem definition is a much broader statement and, in this case would include risk quantification and an estimate of costs for application of each of several alternative solutions. Risk quantification includes the severity of the effect on children, the prevalence of housing with lead in walls, baseboards and window sills, and the number of vulnerable children likely to be exposed. Cost estimation would include statements concerning the segment of society which must bear the costs. Definitions of problems must be developed that will result in effective solutions."

—National Bureau of Standards

DOMESTIC BUSINESS REPORT

- Businessmen focus on future plans
- All levels of government fight pollution
- Paper and board industry outlook good
- Small businesses exempt from controls
- First major LASH terminal in operation

Businessmen Seek More 1990 Answers

Chicago area executives will turn their thoughts to the future and focus their attention on the major issues that must be addressed now in order for industry to meet the Nation's needs in 20 years at a conference to be held June 14 at the Museum of Science and Industry in that city.

The Chicago meeting, billed as a "mini-conference", is the first follow-up conference to the three-day *White House Conference on the Industrial World Ahead: A Look At Business in 1990*, called last February by President Nixon in Washington, D.C. More than 1,500 key leaders in business, government and education attended that conference to explore ways to prepare for the future, taking a long-range look at it and developing policies to help shape it, as well as looking for solutions to complex national, social and economic problems that may arise.

More than 150 corporate presidents, board chairmen and chief executives are expected to participate in the Chicago White House mini-conference, being sponsored by the museum and the Forum for Presidents Committee of Northern Illinois University, in cooperation with the U.S. Department of Commerce.

Overcoming obstacles

The conference will explore ways of overcoming obstacles to achieving national potential, as outlined in the original White House Conference.

Robert W. Miller, executive director of the original conference, will be the mini-conference's keynote speaker.

Conference plans are under the supervision of Daniel M. MacMaster, president of the museum, William H. Bingham, Chairman, Forum for Presidents Committee, Northern Illinois University, and Gerald M. Marks, regional director of the Commerce Department Chicago Field Office.

One of the highlights of the conference was an exhibition dealing with the future presented by industrial firms, government agencies, and professional societies. Most of these exhibits will be on public display at Chicago's Museum of Science and Industry from June 15 through Aug. 31.

Among the technological and industrial developments depicted in the exhibits are synthetic natural gas, high-protein concentrate food and drink made from cotton, floating workshops for ocean exploration and development, recycling of used wood products, undersea oil production and storage facilities, improved air pollution measurement techniques, space food and feeding, and new types of ships.

The exhibits are being presented by the Aluminum Co. of America, American Gas Assn., American Society of Mechanical Engineers, American Society for Testing and Materials, J. J. Henry Co., National Bureau of Standards, National Cotton Council of America, Newport News Shipbuilding, U.S. Forest Products Laboratory, Westinghouse Electric Corp., and Whirlpool Corp.

Environmental Quality Control Expenditure Fiscal 1969-70 And Full-Time Equivalent Employment, October 1970, By Selected Large Governments

Level of government	Environmental quality control		Water quality control		Solid waste management		Air quality control	
	Expenditure (thousands of dollars)	Employment	Expenditure (thousands of dollars)	Employment	Expenditure (thousands of dollars)	Employment	Expenditure (thousands of dollars)	Employment
Total	[1]2,422,302	121,323	[1]1,404,528	40,682	[1]913,258	76,302	[1]104,516	4,339
Federal	512,140	[2]1,828	415,728	735	18,612	[2]220	77,800	[2]873
State	215,531	5,195	157,088	3,695	35,679	(NA)	22,767	1,500
48 largest cities	1,094,132	72,385	530,787	17,801	552,361	53,565	10,981	1,019
58 largest counties	220,852	6,110	151,073	2,907	57,113	2,256	12,666	947
Local governments in 38 largest SMSA's (excluding city and county governments shown above)	850,898	35,805	597,501	15,544	253,391	20,261	(NA)	(NA)

NA Not available.
[1] Intergovernmental expenditure has been eliminated from the totals.
[2] Figures are for full-time and part-time Federal civilian employees.

Governments Spend $2.4 Billion On Environment

Expenditures on three major types of environmental control activities by Federal, State and large metropolitan governments increased by half a billion dollars, or 26 percent, from fiscal year 1969 to fiscal 1970.

Cleaning environment

A survey by the Bureau of the Census showed that expenditures for air and water quality control and disposal of solid waste totaled $2.4 billion in fiscal 1970 compared with $1.9 billion the previous year. The local governments included those in the 38 largest metropolitan areas, 48 other city governments with populations of 300,000 or more, and 58 county governments with populations of 500,000 or more.

About $1.4 billion was spent on water quality control, $913 million on solid waste management and $105 million on air quality control.

The total was less than 1 percent of the budgets of all governments in the survey, but the proportion for cities was more than 7 percent.

The various governments employed the equivalent of 121,323 workers for the three types of activities: 76,302 for solid waste management, 40,682 for water quality control, and 4,339 for air quality control.

The Census Bureau said that the survey was an exploratory effort to develop measures of governmental activities in the environmental area and that it does not provide a basis for nationwide estimates. The bureau also said that the number of employees in environmental activities may be understated because of multiple duties of some employees.

On water quality

Of the $1.4 billion spent on water quality control, about $415 million was expended, either directly or indirectly, by the Federal Government, and $531 million was spent by the 48 largest cities. The latter included $283 million for new water treatment facilities.

The cities also spent more than the other types of governments on solid waste management: $552 million of the $913 million total. The cities used about 10 percent of this amount for new facilities. New York City spent a total $164 million on solid waste management, up 12.5 percent from the previous year—more than triple that of any other city. The next largest expenditure, $50 million, was by Chicago, and the two together accounted for about 39 percent of the total for all cities.

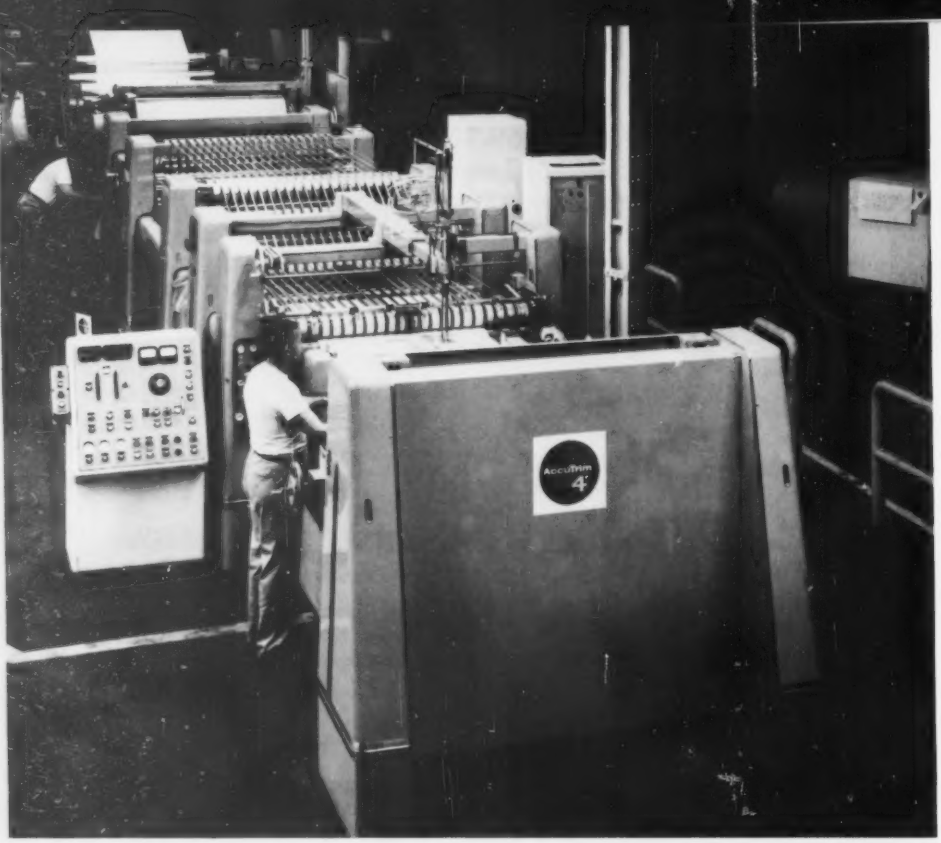
Air quality control

Federal expenditures for air quality control accounted for 57 percent of the $105 million total, while the remainder was about equally divided between the States and the large local governments. More than half of the federal expenditure was used for research and development.

These data and others are contained in the report "Environmental Quality Control Expenditure and Employment for Selected Large Governmental Units, Fiscal 1969-70."

The report is available for $.55 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, or Department of Commerce field offices in major cities of the United States.

—Census Bureau



ELECTRONIC INSPECTION—*This is a prototype of a new development in the finishing and sheeting operation of West Virginia Pulp and Paper Co. The machine replaces 15 men with two operators and is a new technical advance by the industry.*

Nation's Paper, Board Production Reach New Highs, Still Climbing

Reacting to demand brought about by an upswing in construction and industrial markets, paper and board production reached a new annual high in the last half of 1971, according to a Bureau of Domestic Commerce analysis.

Future good

And the industry's outlook for 1972 and the future is "good."

The new production high set in the paper and board industry was 54.2 million tons. Output in 1971 was nearly 2 percent greater than in 1970 and slightly above the previous peak set in 1969.

"Higher levels of general business activity should result in record production and shipments for the U.S. paper and board industry in 1972," Donald W. Butts, author of a BDC review and outlook on the paper and board industry, stated.

"Production is expected to increase 4 percent to 56.6 million tons and shipments to $10.6 billion," Butts wrote.

Furthermore, the BDC study concludes that U.S. consumption of paper and board is the highest in the world, the industry's markets and products are rapidly expanding, new steps are being taken toward recycling and reusing waste paper, and productivity per production employee in paper and board mills rose to a new high in 1971.

And a look at related commodity trends reveal that nearly 64 million cords of pulpwood deliveries made 1971 the third largest year in the pulpwood industry's history.

Despite the lengthy dock strikes that took place during the year, preliminary figures fix 1971 exports of paper and board alone at a record high of 30 million tons. This is 12 percent more than the quantity shipped in 1970 and equal to six percent of U.S. production.

If long-term trends persist, export of these products should rise to 3.3 million tons and $630 million in 1972.

The report noted that the South, with its vast reserves of Southern pine used in producing sulfate pulp, claims nearly half of the Nation's paper and board production.

BDC Quarterly Industry Reports, "Pulp, Paper and Board," and "Printing and Publishing," are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, or through any U.S. Department of Commerce Field Office. Annual subscription $1. Single copies are available for 25 cents from the Department of Commerce Sales and Distribution Branch, Washington, D.C., 20230 or the Field Offices.

The industry's products find their way into thousands of end uses serving the Nation's wide spectrum of cultural and industrial needs. This country accounts for more than 40 percent of the world's total consumption and, on a per capita basis, uses 40 percent more paper and board than the world's second ranking country, which is Sweden.

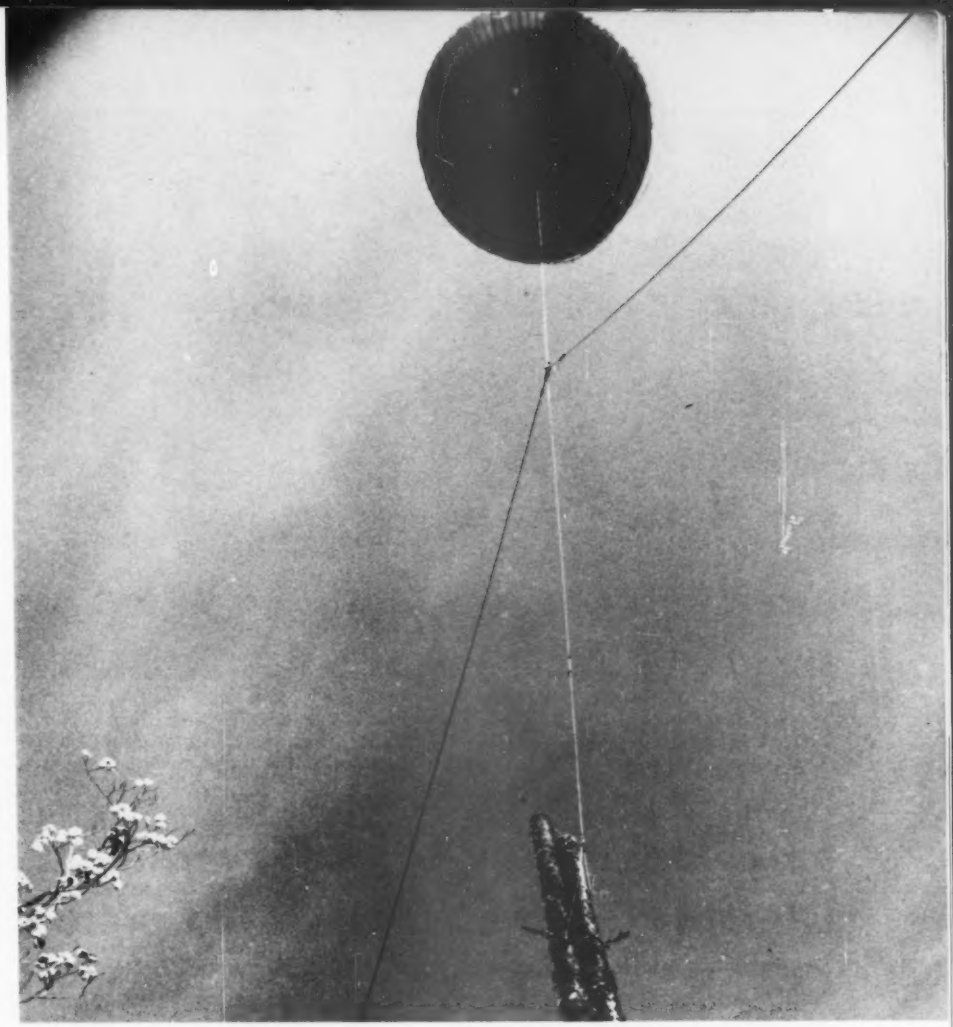
Products can be grouped into rankings of packaging and industrial converting papers and paperboards; writing and printing papers, construction papers and building board; and sanitary papers including tissue and toweling.

A constant search for new and improved products offering growth potential has taken the industry

into disposable papers for use as diapers, bedding and dining linen, hospital gowns, surgical drapes and masks, uniforms and other apparel.

Other innovative products include honeycombed structured paper providing a high strength-to-weight ratio for use in aircraft, construction, home insulation and packaging, filter paper for removing contaminants from fuel in jet planes, waste disposal systems using paper bags, oil absorbing paper for use in removing waterborne oil spills, carbonless multicopy paper for use in business forms and low cost paperboard houses.

Plans for additions in the paper and board industry through 1974 will increase U.S. capacity by 3.8 million tons above the 60.4 million tons calculated for 1971 year end. The industry operated at 91 percent of capacity, compared with 88 percent in 1970 and 93 percent in the banner year 1969. With the anticipated economic upswing in 1972 and with limited growth in capacity, the industry's operating capacity should approach 95 percent and be reflected in improved profits, the report concluded.



PULP INDUSTRY—*Processing begins with cutting and logging in the rapidly expanding pulp and paper industry. This scene in the Pacific Northwest is typical of new logging techniques which simplify a rugged industrial process.*

Other reports

Other Bureau of Domestic Commerce reports indicate the following trends:

An annual survey of the U. S. confectionery industry shows the sweetest situation ever—candy sales last year topped $2 billion for the first time. The full report—"Confectionery Manufacturers' Sales and Distribution, 1971"—is published by BDC in cooperation with the industry; and available at 20 cents a copy at the Government Printing Office and Commerce field offices.

Trade balance in dental equipment improved last year, according to a detailed report on exports and imports, with significantly greater gains noted in the former than the latter. Similar survey of X-ray apparatus and parts showed 1971 trade favored imports; however, U. S. exports gained nearly $10 million over the previous year.

A ray of light comes through from the ophthalmic goods industry. A new Department of Commerce report shows an overall improvement last year in U.S. foreign trade in ophthalmic goods, including eyeglasses, sunglasses, ophthalmic lenses and spectacle parts.

Although imports continued to outpace exports by nearly three to one in this field and increased four percent in value over 1970, the Bureau of Domestic Commerce reported that exports in 1971 rose by nearly 22 percent for the United States—from $13.8 million to $16.8 million.

—Bureau of Domestic Commerce

LOGGING—*New techniques involving balloon and helicopter enable lumber firms to get logs out of remote areas in the forests of the Pacific Northwest.*

NOW EXEMPT—*Small businesses are now exempt from most wage and price regulations. Pictured are Chicago Economic Development Capital Corp. officials Eugene Nowotarski (left), and Antonio Naranjo (right) on a visit to a small minority-owned business, Abbott Specialty Metals. Nelson Carlo explains program.*

Small Businesses, Local Governments Exempt From All Wage-Price Controls

A new "small business exemption," has removed small businesses and local governments from all price and wage controls, except for the health services and construction industries.

Nearly all price adjustments for state and local governments were exempted in January when the Cost of Living Council eliminated most governmental fees and charges from direct controls.

Following is a series of questions and answers detailing the new exemption:

Q: What is the small business exemption?

A: The small business exemption is an exemption for all price adjustments and most pay adjustments, and it applies, with some exceptions, to firms and local governmental units having an average of 60 or fewer employees.

Q: In computing the average number of employees for determining whether the small business exemption applies, are part-time and casual employees counted as employees?

A: Yes. Every employee shall be treated as if he were a full-time employee for purposes of this computation.

Q: What employees does a local government count in determining whether it qualifies for the small business exemption?

A: Each local governmental unit would include all employees (full, casual and part-time) of such governmental unit.

Q: Does the small business exemption apply to a public utility which is a firm or a special district?

A: Yes. The small business exemption does apply to any public utility which otherwise qualifies under the provisions of the exemption.

Q: X, a firm which came into existence before Dec. 31, 1971, and for each of the pay periods which included June 30, Sept. 30, and Dec. 31, 1971 and March 31, 1972 had an average of 15 employees, 10 of which had their pay adjustments set by a master employment contract which was negotiated on an industry basis and covered 50 employees. Is X exempt?

A: Yes, X is exempt. Although more than 50 percent of its employees had their compensation set by a master employment contract, the master employment contract covered 60 or fewer employees. The pay adjustments of the 10 employees which are set under the master employment contract are also exempt because the master employment contract covered less than 60 employees.

Q: X, a firm which came into existence before Dec. 31, 1971, had an average of 40 employees during each of the pay periods which included June 30, Sept. 30, and Dec. 31, 1971 and March 31, 1972, 35 of which had their compensation set by a master employment contract which was negotiated on an industry basis and which covered more than 60 employees. Is X exempt?

A: No. X is not exempt, because 50 percent or more of its employees had their pay adjustments set by a master employment contract which covered more than 60 employees.

Q: X is a firm which came into existence before Dec. 31, 1971 and in each of four successive calendar quarters including the one ending on March 31, 1972 had an average of 40 employees, five of which had their pay adjustments set by a master employment contract which was negotiated on an industry basis and which covered more than 60 employees. Is X exempt?

A: Yes. X is exempt because less than 50 percent of its employees had their pay adjust-

ments set by a master employment contract, however, the pay adjustments of the 5 employees which are set under the master employment contract are not exempt because the master employment contract covered more than 60 employees.

Q: How do firms coming into existence on or before Dec. 31, 1971 determine their average number of employees in order to qualify for the small business exemption?

A: Firms coming into existence on or before Dec. 31, 1971 compute their average number of employees by dividing the sum of the number of employees in the pay periods which included June 30, Sept. 30, and Dec. 31, 1971 and March 31, 1972 by the number of such pay periods for which such firms were in existence.

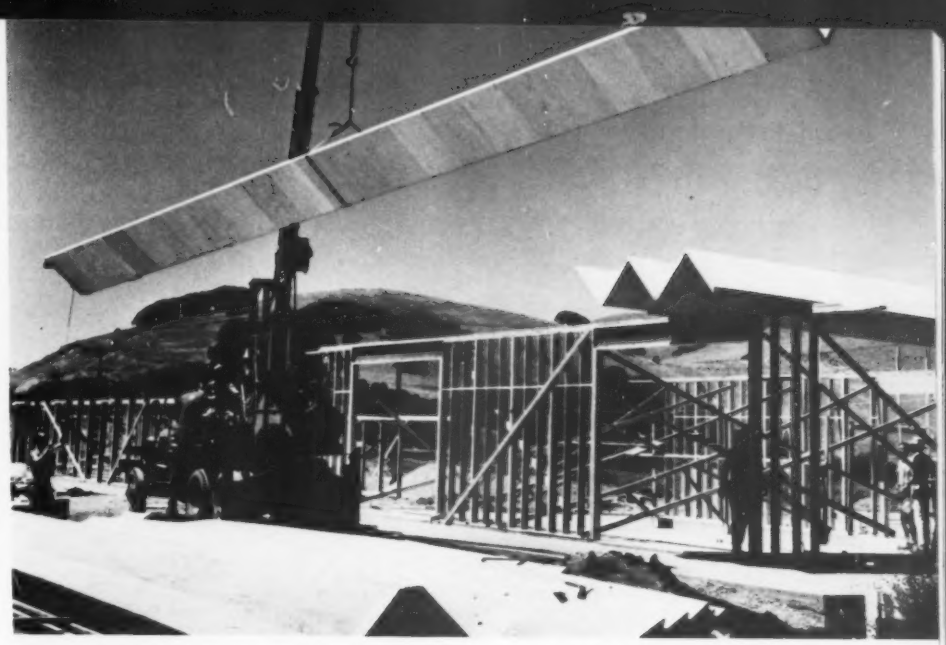
Q: How do firms coming into existence on or after Jan. 1, 1972 determine their average number of employees in order to qualify for the small business exemption?

A: Firms coming into existence on or after Jan. 1, 1972 must measure their employment levels in the four calendar quarters after March 31, 1972. If, under the computation rules provided in the regulation, the firm has 60 or fewer employees during *each* of their quarters, it qualifies for the exemption.

Q: If a firm came into existence on Dec. 30, 1971, how does it compute its average number of employees?

A: The firm divides by two the sum of the number of employees at Dec. 31, 1971 and March 31, 1972 to determine its average number of employees.

Q: Who is considered an employee for purposes of the small business exemption?



NOT EXEMPT—*The construction industry was among small businesses not exempt by the new ruling of the Cost of Living Council. This new house construction is typical of new activity in the softwood and lumber plywood area of the industry.*

A: Those indivduals defined as employees under S3121(d) of the Federal Insurance Contributions Act (Title 26, United States Code) and *partners,* are employees for purposes of the small business exemption.

Q: X is a firm which came into existence prior to Dec. 31, 1971. Its average number of employees on March 31, 1972 for the preceding four calendar quarters was 64. On the effective date of the regulations X's employees are less than 60. X further expects that its employees will be less than 60 for sometime. May X qualify for the small business exemption?

A: No. X may not qualify because its average number of employees for the four quarters ending March 31, 1972 was more than 60. X may, however, seek an exception from the Cost of Living Council in accordance with the procedures in Part 105 of title 6 of the Code of Federal Regulations.

Q: May a firm which qualifies for the small business exemption set a price or pay adjustment retroactively?

A: Only to the extent permitted by Price Commission or Pay Board regulations which applied to the firm's adjustments prior to its exemption.

Q: X is a firm which came into existence before Dec. 31, 1971 and qualified for the small business exemption. Prior to the effective date of the small business exemption, X was being investigated for a price violation. Is X now exempt from the imposition of a fine or a penalty if X is found to have violated the Economic Stabilization Act, prior to the effective date of the small business exemption?

A: No. The small business exemption is prospective in effect. The exemption does not excuse past conduct which may have been in violation of applicable stabilization regulations.

Q: If an institutional or noninstitutional provider of health services has 60 or fewer employees, may it qualify for the small business exemption?

A: No. Regardless of the number of employees, an institutional or noninstitutional provider of health services may not qualify for the small business exemption.

LIGHTERS' HOME PORT—*The PFEL LASH terminal at the Port of San Francisco was designed and constructed to serve as home base for Pacific Far East Line's LASH fleet, and incorporates the most advanced concepts in handling containers and lighters. Artist's rendering shows: 1) Lighter storage basin. 2) Two heavy lift cranes of 50-ton capacity each. 3) Lighter maintenance yard. 4) Service building. 5) Lighter freight station. 6) Administration building. 7) Container freight station. 8) Container yard. 9) Container crane. 10)Tug pushing sea-worthy lighter.*

LASH Fleet First Major Terminal Open For Business On West Coast

The world's first major terminal specifically designed to handle LASH (Lighter Aboard Ship) ships has opened and begun operations at the port of San Francisco.

This 48-acre, $22 million two-berth LASH base has been tailored to the requirements of Pacific Far East Lines on a long-term basis to serve its revolutionary new barge-carrying vessels, which are 820-feet long and 100-feet wide. PFEL is the only LASH operator in the Pacific basin, serving the Far East and the Orient.

Heart of the new terminal—which has been two years in the making—is a huge Lighter Freight Station along the lighter basin on the south side of the roughly triangular-shaped facility.

The Station stretches 855-feet in length and 192-feet deep at its narrowest dimension, with a 75-foot cantilevered canopy over the water for all-weather loading. Additionally, foundations for five more 65-foot bays are being provided for a future 325-foot extension.

Loading giants

Two giant telescoping-mast container gantries, each higher than a 7-story building, will be capable of heavy-lift lighter loading or unloading, as well as removing empty lighters from the water for shifting to the nearby lighter maintenance area.

Five telescoping-mast stacker cranes, nicknamed "Flying Forks," will load the LASH barges. Other features include a "one-stop" system of cargo delivery and receiving and computerized cargo record-keeping. The terminal is also served by both rail and highways.

The advanced cargo handling systems of the terminal also include a machine that plastic-wraps individual loads of cargo. The container yard at the base is large enough to hold 2,000 containers and 200 refrigerated cargo vans. The Freight Station itself has space for loading up to 54 containers at one time, and it can accommodate 42 trucks at the same time. Eighteen lighters can be berthed next to the station in tandem, along the water's edge.

Pacific Far East Line has four LASH ships in service at this time, with two more expected to be delivered before the end of this year.

The pioneering LASH concept is proving to be beneficial to all lines who have built this vessel. Pacific Far East notes three major rewards from using these ships:

- Increase in tonnage, almost twice the bale cubic capacity of current vessels.
- Six LASH ships, when all completed, replacing 10 conventional ships, and still maintaining the same frequency of service.
- Delays dramatically lessened; cargo loading expedited at LASH terminals in San Francisco, Los Angeles, Stockton and other ports.

PFEL plans to integrate LASH ships into its current fleet on Trade Route 29. As a LASH ship is introduced on TR 29, a Mariner (or other vessel) will be put into other service.

In fact, Pacific Far East Lines is so satisfied with the LASH concept that it is considering more LASH ships for the future. And at the current time, it is studying the possibility of introducing LASH ships into the South Pacific trade.

LASH ships have a capacity of 49 lighters and 334 standard containers, totaling more than 1,300,000 bale cubic feet. The standard container capacity can be increased as required by the cargo demands. For example, with 34 lighters aboard there will be room for 724 standard containers.

The LASH itself may be termed

the "mother" ship for the lighters. Lighters themselves are 61-foot barges which can be loaded with cargo, and the entire barge with its cargo may be lifted from the ship by its own onboard crane and released in the water to be towed to a port's docks or inland points, while the ship can stand out in deeper water.

All-type cargo

In addition, lighter cargo can be palletized, liquid (oil, exotic acids), containerized, bulk (grain, chemicals), heavy equipment and machinery or general break-bulk.

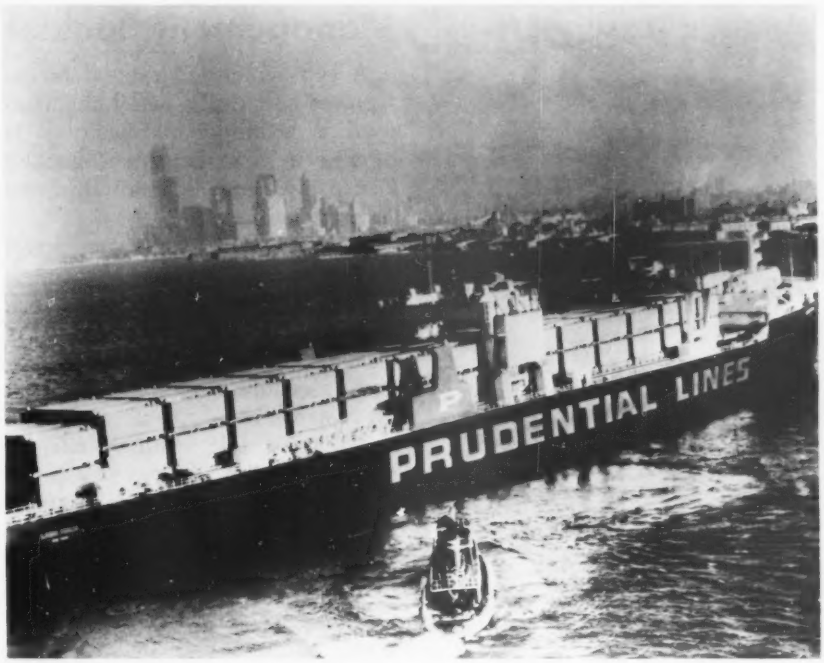
The design of this revolutionary ship was conceived by Friede & Goldman, Inc., of New Orleans, La. Prudential-Grace Lines at the present time is also building a LASH fleet. Three have already been delivered and are in operation, one should be in operation as this story goes to press, and a fifth is under construction. Central Gulf Steamship Corp. has ordered three LASHs, Delta Steamship Lines, three, and Waterman Steamship Corp., six. The progress and savings which will result from this ship design are catching on.

Cargo-mover

As Spyros S. Skouras, chairman of Prudential-Grace Lines said, "LASH is a positive promoter of the port city, because, as we have seen, it is a cargo-mover, a job-maker and a wage-generator.

"LASH is good for the American Merchant Marine and all seagoing union workers, good for our Nation's foreign trade balance, good for industries in the port as well as away from the port, and good for you, the shippers, and your families.

"In brief, the LASH system is good for every business interest and every national interest area in the United States today!"



FULL SPEED AHEAD—*Modern technology has produced the revolutionary LASH (Lighter Aboard Ships), an advanced vessel that will speed shipments. Above is one of Prudential-Grace Lines new LASHs, loaded with its cargo.*

Nearly Two Million DWT Total Of U.S. Vessels Being Built Or On Order From U.S. Shipyards

Fifty-seven ships, amassing more than 1.9 million deadweight tons, were under construction in or on order from American shipyards April 1, according to the Maritime Administration.

Conversion action

Maritime's Merchant Marine Data Sheet showed 13 vessels were undergoing conversion. Since the beginning of fiscal 1972 American shipyards have delivered ten new vessels and ten conversions totaling over 500,000 deadweight tons.

The U.S. merchant fleet as of April 1 consisted of 1,286 vessels of 1,000 gross tons or more. Private companies owned 677 and the remaining 609 were in the Maritime Administration owned fleet, which primarily consists of World War II ships laid up in the National Defense Reserve Fleet.

The fleet showed a net decline of 27 ships during March, with privately owned vessels decreasing by six and the government owned fleet by 21. The decline in the government fleet included 14 vessels sold for scrap and seven sold for non-transportation use.

One new ship was delivered for private account during the month, and seven were sold for scrap.

—*Maritime Administration*

Ombudsman For Business

Businessmen who need assistance in their dealings with the Federal Government now have a central office in Washington, D.C., to write or call for information, suggestions, or even for registering complaints—the Commerce Department Ombudsman for Business.

All inquiries should be addressed to the Ombudsman, Thomas E. Drumm, Jr., Special Assistant to the Secretary, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-3178.

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Call or visit your local state employment service.

Management Booklet Designed For Retailers

A self-evaluation system to determine how well a small businessman is running his business is offered in a management booklet issued by the U.S. Small Business Administration.

"Management Audit for Small Retailers," No. 31 in SBA's Small Business Management Series is a checklist of 149 questions for measuring management practices and procedures in retailing. Honest answers to these questions should give the small retailer a good indication of how well he is planning, organizing and controlling his business.

The booklet, which is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402 for 35 cents points out, "In today's competitive economic climate a small retailer can prosper only if he is growing and emulating the best practices of the big fellows."

An entire chapter covers over 75 free management aids available from all SBA field offices and as many for-sale publications, sold by the Superintendent of Documents.

One of SBA's chief responsibilities is to provide counsel and guidance to small firms and help improve their management techniques. In addition to publishing hundreds of publications on a broad range of business subjects, SBA conducts business workshops and conferences, sponsors administrative management courses with universities and civic groups and arranges for personal counseling.

—Small Business Administration

Calendar For Businessmen

June 11-16—Rochester, N. Y.—Basic Industrial Development Course, accredited by AIDC, at Rochester Institute of Technology. For information, Robert J. Hall, Rochester Gas & Electric. Phone: 716-546-2700.

June 14—Chicago—Miniconference of corporate executives in conjunction with opening of exhibits from the "White House Conference on the Industrial World Ahead:1990" at the Museum of Science and Industry. For information, Department of Chicago Field Office.

June 26-27—New York—First Annual Government Data Systems Conference, sponsored by New York University, Division of Business and Management. Registration accepted by telephone. Call William A. Kulok, Phone: 212-687-8540.

July 10—Marquette, Mich.—Federal Procurement Business Opportunity Conference at Student Center, Northern Michigan University. For information, Chris Farrand, Administrative Assistant to U. S. Rep. Philip E. Ruppe, 124 Rayburn Building, Washington, D. C., 20515. Phone: 202-225-4735.

July 14—Sheboygan, Wis.,—Federal Procurement Business Opportunity Conference. For information, Frederic A. Seefeldt, Home Secretary for U. S. Rep. William A. Steiger, 201 Post Office Building, Oshkosh, Wis., 54901. Phone: 414-231-6333.

July 17—Stevens Point, Wis.—Business Development Conference at University Center Building, University of Wisconsin. For information, Bill Vickerstaff, Assistant to Chancellor, 2100 Main St., Stevens Point, Wis. Phone: 715-346-2123.

Aug. 13-16—Norman, Okla.—Industrial Development Institute, AIDC, at Oklahoma Center for Continuing Education. For information, Dr. Ahmed R. Mandour, Business and Industrial Services, University of Oklahoma, Norman, 73069. Phone: 405-325-1931.

SCIENCE & TECHNOLOGY REPORT

- **Breakthrough seen in fabrics standard**
- **Fishing industry gains new private financing sources**
- **Farflung spotters, trackers gear up to forecast hurricanes**
- **First Gulf environmental test data buoy to be anchored**
- **Patents of special interest**

Breakthrough Seen In Fabrics Standard

Technology and production techniques already developed and those which will develop to meet the children's sleepwear standard put into force by Secretary of Commerce Peter G. Peterson effective July 29 should "provide the breakthrough needed for extending flammability standards to other clothing," the Secretary said.

"Although the fabric and design mix is quite different, we would expect that the technology developed to meet our standard . . . will show the way for flammability standards for other children's sleepwear, sizes 7 through 14," he added.

The Secretary made the comments while announcing the effectiveness of the children's sleepwear standard as previously adopted notwithstanding proposals by industry for amendment in recent hearings. Industry had requested a postponement of the effective date of the standard and exemptions for certain fabrics.

At the same time the Secretary announced a new Federal standard for mattress flammability and assigned new responsibilities to the Fire Research Advisory Panel of the National Bureau of Standards to monitor and report on all new developments and potential breakthroughs in flame retardancy technology developed in connection with the standards already adopted.

Warning label

"In this way," he pointed out, "we will be in a position to assure the exercise of our standard-making authority as fast as the technology develops."

The children's sleepwear standard covers nightgowns, pajamas, and robes, and fabrics intended or promoted for use in sleepwear sizes 0 through 6X manufactured after July 29. Sleepwear not meeting the standard by that date must carry a prescribed warning label, the Secretary pointed out. By July 29, 1973, garments not meeting the standard can no longer be manufactured.

The sleepwear standard was promulgated by former Secretary of Commerce Maurice H. Stans July 29, 1971, following his finding on November 16, 1970, that stringent requirements were needed to protect young children against unreasonable risk of death or injury from sleepwear fires, and that such protection was technologically practicable. The standard was issued under authority of the amended Flammable Fabrics Act.

Under the standard, the fire retardant character of the garment, as treated chemically by the manufacturer, must last through at least 50 test washings.

"We recognize," said the Secretary, "that this is a large undertaking. About 70 million garments of these sizes are sold each year. For some fabrics, the problem is principally obtaining adequate production capacity to apply known technology in the large quantities required. For other fabrics, the technology itself is not yet fully developed. However, we think industry can do the job."

Cost of implementing the standard in plants of large fabric producers manufacturing cotton knitwear and flannel is estimated at $250,000 per plant, according to Richard O. Simpson, Deputy Assistant Commerce Secretary for Product Standards.

Secretary Peterson emphasized that "the flammability problem does not stop with children's sleepwear. Virtually all clothing burns." Therefore, he has asked the Fire Research Advisory Panel of the National Bureau of Standards "to identify and evaluate projects that they believe show promise for technological breakthrough and are appropriate for governmental assistance."

The Fire Research Advisory Panel was appointed in 1971 by the National Academy of Sciences and the National Academy of Engineers and is composed of a number of nationally recognized experts in flame retardancy.

Fire panel advisers

Members of the panel are:

Dr. Howard Emmons, Howard University; Raymond Hill, Los Angeles Fire Department; Dr. John W. Lyons, Monsanto Company; Dr. Eric Wolman, Bell Telephone Laboratories; Dr. Raymond Friedman, Factory Mutual Research Corporation; Armond H. Gustafero, consultant; Gordon W. Shorter, National Research Council of Canada; Dr. Edward Blum, Rand Corporation; Dr. Stothe P. Kerios, Georgia Institute of Technology; Dr. Robert Stratton, Texas Instruments, Inc.; Raymond Caravaty, Rensselaer Polytechnic Institute; John L. Jablonsky, American Insurance Association; and Dr. Richard W. Blatzacker, Ohio State University.

HOME REMEDY—*Holly Peterson, seven-year-old daughter of Commerce Secretary and Mrs. Peter G. Peterson, helps her father demonstrate that the dress on her favorite doll treated with a home remedy using borax and boric acid won't flame up when put to the match. It only chars, proving that any garment can be made safer.*

"My immediate concern," said Secretary Peterson, "is whether industry will meet the sleepwear standard by July 1973 with sufficient quantities of fire-safe garments . . . I believe the panel is in a position immediately to conduct an in-depth survey of developments in plant capacity, production techniques, and quality control programs now under way and planned in the affected industries."

The Secretary has also instructed the panel to recommend projects for possible funding which are believed to show promise for technological breakthrough. Realizing that research can be expensive, he said, it may be appropriate for the Commerce Department to provide some assistance. He suggested a potential source for this funding might be the Department's Experimental Technology Incentives Program established this year following the President's Message on Science and Technology.

The new Federal standard for mattress flammability will virtually eliminate deaths or injuries from mattress fires.

Tragic toll

"Home fires take a tragic toll—every year hundreds are killed, and thousands injured by burns received at home," he pointed out. "We must stop this suffering and loss of life. The mattress standard will significantly protect adults and children from the threat of death

or burn injuries from mattress fires, one of the major types of single-fatality fires in this country."

Citing tests conducted at the National Bureau of Standards, Secretary Peterson said "a cigarette allowed to burn on a present-day mattress will ignite it at least 50 percent of the time. Cigarette ignition is the major cause of mattress fires. Mattresses which comply with the standard will resist ignition 99.9 percent of the time—a 500-fold increase in protection for the consumer.

Only about 1 percent of mattresses marketed today meet the new standard.

Included in the standard's coverage are mattress pads and matresses of all sizes and shapes, including those for day beds, bunk beds, convertible sofa beds, rollaway beds, and all other items of furniture with detached mattresses.

The standard also includes a sampling plan requiring pre-market testing and covers both production and prototype mattresses. Inclusion of the sampling plan is expected to assist in detecting noncomplying mattresses before they are placed on the market. Also it will aid the Federal Trade Commission in enforcing the standard.

Sampling plans

Amendments to previously issued carpet and rug standards may also be needed to provide for sampling plans to assist in detecting non-complying carpets and rugs before they reach the market, the Secretary announced.

"Pre-market testing under a statistically valid sampling plan will provide greatly increased protection to the public against carpet or rug fires," he said. "A sampling plan will assure acceptable levels of compliance with the new flammability standards."

He explained that the tests for flammability required under the carpet and rug standards normally destroy the items tested. Because all items cannot be tested, some method of pre-market statistical sampling must be used.

Additionally, the Department is assisting governments at various levels to develop building codes which give proper recognition to the importance of fire retardancy in building materials.

Secretary Peterson points out that the battle against fire injuries requires a concentrated effort to reduce possible fire hazards commonly found in the home. In cooperation with industry and industry associations, Commerce is working toward voluntary standards aimed at reducing such hazards. These projects include voluntary standards for the design of book matches, kitchen ranges and space heaters.

An old fashioned home remedy has been found to safeguard all-cotton fabrics from flaming when exposed to fire.

Simply mix one cup of borax and ½ cup of boric acid in two quarts of hot water. Spray, sprinkle or dip the garment following washing. This treatment lasts until the next washing.

"It's obvious that this kind of home remedy is certainly no substitute for the standards we have adopted and are going to adopt," says Secretary Peterson. "But for those parents who want to take action now to protect their children, it works."

Seven-year-old Holly Peterson, daughter of the Secretary, recently demonstrated for the press the effectiveness of this treatment by applying a match to the treated dress of her favorite Raggedy Ann doll. The material only charred where exposed to the flame, much to Holly's relief.

Fishing Industry Gains New Private Financing Sources This Month

Two new sources of financing providing "another commercial private source of funds for the fishing industry" become available this month, according to Philip M. Roedel, Director of the National Marine Fisheries Service of Commerce's National Oceanic and Atmospheric Administration.

The Farm Credit Act of 1971, among other things, permits commercial fishermen to obtain loans from Production Credit Associations (PCA's), and fishery cooperatives to obtain financing from the Bank for Cooperatives.

Fishermen may obtain loans for anything used in the production of fish, including vessels, gear, shore facilities and supplies. In addition, Roedel says, fishermen living in rural areas can secure loans for housing. Cooperatives can get loans for construction purposes, working capital, including commodity loans, and processing equipment.

Both the PCA's and the Bank for Cooperatives are cooperative banks owned by the borrowers. Funds for loans are obtained from financial markets in New York, with interest rates dependent upon the cost of bonds in the New York money market, and regional operating expenses of the banks. The present interest rate is about 6½ percent.

The size of a loan is determined by the borrower's ability to repay, with time for repayment usually limited to seven years.

Tentative regulations, based on the 1971 legislation, were published in the April 12 issue of the *Federal Register*, with 30 days allowed for submission of comments to E. A. Jaenke, Governor of the Farm Credit Administration, Washington, D.C. 20478.

The Federal Farm Credit Board was scheduled to review the com-

ments May 17 and 18, and the revised regulations become effective upon publication in the *Federal Register*.

During the initial phase of the program, all applications for fisheries loans will be sent to Washington for approval by the FCA.

Banks for Cooperatives are located in Springfield, Mass.; Baltimore, Md.; Louisville, Ky.; New Orleans, La.; St. Louis, Mo.; St. Paul, Minn.; Omaha, Nebr.; Wichita, Kan.; Houston, Tex.; Berkeley, Calif.; Spokane, Wash.; and Columbia, S.C.

PCA's are the local organizations of 12 Federal Intermediate Credit Banks. Addresses of local PCA's may be obtained from local County Agricultural Agents, or the address of the appropriate Intermediate Credit Bank may be obtained from NMFS Regional Offices located in Seattle, Wash.; Terminal Island, Calif.; St. Petersburg, Fla.; Gloucester, Mass.; and Juneau, Alaska. —*NOAA*

Farflung Spotters, Trackers Gear Up To Forecast New Season's Hurricanes

Businessmen and residents of hurricane-prone areas of the nation should know that 1972 is the sort of year that hurricane forecasters worry about.

It's been relatively quiet for the past several years. Not since 1969—when Hurricane Camille drowned several hundred persons —has there been a large U.S. death toll from these mighty storms.

By the official calendar, the hurricane season begins June 1 and ends November 30. Most of the fierce tropical cyclones, with winds of 74 to 150 miles per hour or more, strike U.S. coastal areas in August, September, and October. They are a threat primarily to the Gulf Coast and the eastern seaboard.

Average annual toll from North Atlantic tropical cyclones in the U.S.—from 1915 through 1970—was 107 lives lost and $142 million in property damage. But there were four years in that period with no deaths and no property damage, one year when the death toll was nearly 2,000, and two years when damage totaled almost $1.5 billion. Hurricanes have an erratic history; it doesn't pay to gamble on long-term averages.

This year, as last, the National Hurricane Center in Miami, Fla., a part of Commerce's National Oceanic and Atmospheric Administration, will be coordinating a farflung and sophisticated array of storm spotters, trackers, and forecasters. Basic goal will be to give at least 12 hours of daylight warning time for people to batten down and evacuate, if necessary, before a hurricane hits their area.

As before, satellites, aircraft, and radar will act as artificial eyes to keep suspicious-looking or threatening tropical cyclones under surveillance long before they make landfall.

Atlantic photographs

The annual vigil for hurricanes begins from the lofty vantage point of NASA's ATS-3 satellite, poised 22,300 miles high above the Equator, and capable of providing during daylight hours a photograph of almost the entire Atlantic every 27 minutes or a photo of only the northern half in 12 minutes. Seedling tropical storms moving westward from near the African coast are spotted even before they begin to coil into the characteristic hurricane spiral. Other satellite coverage is provided by NOAA's ESSA 8 and ESSA 9, which make regular passes in polar orbit about 870 miles high.

As the storms move closer to U.S. shores, reconnaissance aircraft of the U.S. Air Force, Navy, and the NOAA Research Flight Facility are vectored into their centers to measure gradients of wind, pressure, and temperature—elements forecasters need to gage the storms' destructive power.

Weather-measuring instruments of the hurricane-hunting planes have undergone significant improvements recently. These will help storm trackers pinpoint more closely the exact center of the pinwheel-shaped storms and thus sharpen forecasters' ability to predict where a hurricane is heading.

When within about 250 miles of the coast, hurricanes move into range of a "picket line" of 17 coastal radars. These give the forecaster a still-better idea of where a storm is heading and tell him during the crucial hours before landfall whether the storm is expanding or contracting. This information, when coupled with aircraft measurements of forces inside the storm, provides a vital profile of its disaster potential.

Then, as the hurricane churns over the relatively shallow waters of the continental shelf, still another vital forecasting aid is called into play. This is a computerized, numerical prediction of the expected height of the storm surge—a tide of wind-driven water that is the real killer in most hurricanes, rather than wind alone. It was such a surge that killed about 150 on the Gulf Coast of Mississippi and Louisiana in 1969, and an estimated 300,000 in East Pakistan in 1970.

For the first time this year, storm-evacuation maps prepared by the National Ocean Survey are being made available. These maps show areas that will be inundated by various levels of tide, and the best routes for evacuation inland. Maps are now available for a strip from Mobile, Ala., to New Orleans, hard hit by Hurricane Camille; and the Galveston, Texas, area which at the turn of the century experienced the worst hurricane disaster in U.S. history. In process are maps for the Corpus Christi, Texas, area; a strip from Savan-

nah, Ga., to Charleston, S.C.; and the Norfolk, Va., vicinity.

As population density continues to increase in low-lying areas that are subject to frequent hurricanes, Dr. Robert H. Simpson, director of the National Hurricane Center, has warned that there may come a time when the warning interval forecasters are able to provide will not be enough to evacuate endangered populations by conventional means. Consequently, a pilot program involving "vertical evacuation" to sturdy high-rise structures nearby is under study in the Greater Miami area this year. The study is being conducted by a committee of Miami's Federal Executive Board, and has the backing of the White House Office of Emergency Preparedness. If the program develops as hoped, Dr. Simpson believes it could become a model for other cities.

Gust speeds

Another innovation this year will be inclusion in hurricane advisories and bulletins of regular statements of the expected wind speed in gusts, as well as the speed of the sustained wind. A sustained wind must average a given speed over no less than one minute, and is the weatherman's traditional measurement of maximum wind. A gust lasts only seconds.

In recent years, it has become clear that gusts have been responsible for major structural damage. The most dramatic example occurred during Hurricane Celia in Corpus Christi, Texas, in 1970 when a 161-mile-per-hour gust of less than 30 seconds duration collapsed a new airplane hangar and utterly demolished an entire community of hundreds of mobile homes.

Goal is to impress on builders, structural engineers, and others who use such information that gust forces, though brief, should not be overlooked in calculations of what to expect from a hurricane or other severe windstorm. —*NOAA*

First Gulf Environmental Test Data Buoy To Be Anchored Off Mississippi

This week, the Coast Guard Cutter *Acushnet* is scheduled to tow the first of a series of 100-ton advanced experimental buoys from Gulfport, Miss., to a point in the Gulf of Mexico 225 miles offshore. Anchored in almost two miles of water, the new buoy will gather automatically oceanographic and meteorological data from the marine environment. It will remain on this site through 1974 transmitting environmental data.

Information from this instrumented platform and others that will follow is designed to fill an environmental data gap in maritime areas of the globe. Eventually, the establishment of a network of automatic buoys throughout the oceans, coastal waters, bays, estuaries, and large lakes will provide data required for predicting weather, sea conditions, fish migration, and other conditions with an impact on man and his endeavors.

Results of this experimental data-gathering program could provide the basis for a vital service to both the shipping and commercial fishing industries.

The program to develop a national system of environmental data reporting buoys is being conducted by NOAA's National Data Buoy Center, headed by James W. Winchester. The instrumented platforms are being prepared for testing at the Center's facilities at the National Aeronautics and Space Administration's Mississippi Test Facility, Bay St. Louis, Miss.

Six of the large buoys are scheduled to be stationed in the Gulf during the next three or four months for test and evaluation. They are designed to withstand 150-knot hurricane winds, 60-foot waves, and 10-knot currents. Each platform can carry more than 100 sensors to measure oceanic and atmospheric conditions.

The Coast Guard is providing the necessary servicing and maintenance support for the buoys at sea and communications services at the Coast Guard Radio Station in Miami, Fla. The shore receiving station will relay the environmental data received from each buoy every three hours or on demand to NOAA's National Meteorological Center in Suitland, Md.

Engineering data will be transmitted to the National Data Buoy Center in Bay St. Louis.

Electro-Dynamic Division of General Dynamics, San Diego, Calif., designed and built the buoys. The contract provides for an ocean platform system consisting of a buoy hull, moorings, power systems, data processing system and communications system. The company is also acting as the system integration contractor and is modifying the data receiving station in Miami to accept the data from the new buoy system.

Improving buoy design

DACO Industries of Mississippi, Inc., Biloxi, Miss., is fabricating and testing the buoy hulls for General Dynamics during the engineering experimental phase of the National Data Buoy Program. This phase will serve as a basis for evaluating existing buoy technology, developing systematic engineering data for improving buoy design and providing experience in the stationing and servicing of buoys, as well as in the gathering and use of environmental data.

The meteorological and oceanographic sensors are being developed by Westinghouse Electric Corporation's Ocean Research and Engineering Center, Annapolis, Md. The second source manufacturer for oceanographic sensors is EG&G Environmental Equipment Division, Waltham, Mass.

Patents Of Special Interest

Recent patents issued by the U.S. Patent Office included:

Air cooling system for rotary internal combustion engine. The air cooling system for a rotary piston, internal combustion engine, having a liquid cooled rotor and means defining a divided circumferential external cooling air flow path for flowing air in a first path adjacent the combustion and expansion sectors of the engine and cooling air in the second path adjacent the intake sector of the engine, comprises a liquid heat exchanger secured adjacent the intake sector of the engine and in the second external cooling air flow path so that heated liquid from the engine rotor is passed in indirect heat exchange relation to cooling air flowing through the second path. The heat exchanger is constructed and arranged to provide a pressure drop in the cooling air flow, downstream from the point of divergence of the cooling air flow, to automatically meter a smaller quantity of the cooling air flow in the second flow path than through the first flow path. Patent No. 3,659,562 issued to Charles Jones, Hillsdale, N. J., and assigned to Curtiss-Wright Corp.

Pollution suction water sweeper. A floating power-operated vessel designed to collect by suction from the surface of a body of water, as it moves, floating pollutant matter. Adjacent the prow of the vessel is a suction pump compartment and inlet pipes below the water level connected to a suction pump in the compartment. Adjacent the stern of the vessel is a clean water collecting compartment having a discharge pipe adjacent the top and above the water level for discharging water down onto the surface of the body of water. Between the forward pump compartment and the rear clear water collecting compartment there is provided a series of transversely disposed and longitudinally spaced partitions forming communicating chambers designed to separate by degrees the mass of pollutant matter from the water. Patent No. 3,651,943 issued to James DiPerna, 85 Foxhill Terrace, Staten Island, N.Y.

Photographic apparatus. Photographic apparatus employing a gas-excluding filter interposed between a source of processing liquid and a processing chamber for providing a flow of gas-free processing liquid to exposed photographic material disposed within the processing chamber. The source of liquid is provided within a disposable, variable-volume container or container filter combination adapted for coupling to a processing chamber of a camera which includes a force supplying member for varying the volume of the reservoir container to selectively vary the pressure differential across the filter and thereby direct gas-free processing liquid to or from the processing chamber. A transport element is included in the camera for positioning the exposed photographic material. Patent No. 3,659,512 issued to Milton S. Dietz, Lexington, Mass., and Walter G. Lehamann, Somerville, Mass., and assigned to Polaroid Corporation, Cambridge, Mass.

Abstracts and drawings of patents are published as they are issued in the *Patent Official Gazette* each Tuesday. More than 1,600 patents are issued each week. Trademarks are published in the *Trademark Official Gazette*. Copies of the *Patent Official Gazette* and the *Trademark Official Gazette* may be obtained from the Superintendent of Documents, GPO, Washington, D.C., 20402.

Science Calendar

June 21-23—Boulder, Colo.—National Bureau of Standards, Boulder Laboratories Joint Measurement Conference. Theme is "The Role and Value of Measurement."

June 26-29—Boulder, Colo.—National Bureau of Standards. Precision Electromagnetic Measurements. Sponsored by IEEE and URSI.

July 10-14—Washington, D.C.—Shoreham Hotel. 57th National Conference on Weights and Measures. Theme: Weights and Measures—The Consumer's Affair.

July 17-21—Milwaukee, Wis.—American Society of Civil Engineers Transportation Engineering Conference. Sheraton-Schroeder Hotel. Conference theme is "Policy Issues In Transportation."

August 9-12—Kailua-Kona, Hawaii—International Symposium on Billfish. Sponsored by National Marine Fisheries Service.

Sept. 20-22—Gaithersburg, Md. National Bureau of Standards. IEEE-TAP Environmental Conference.

Oct. 2-6—Gaithersburg, Md.—National Bureau of Standards. Third International Congress on Marine Corrosion & Fouling. Sponsored by the Permanent International Commission for Research on Preservation of Materials in the Marine Environment in cooperation with NBS, Maritime Administration, Office of Naval Research, and Naval Oceanographic Office.

Oct. 17-18—Gaithersburg, Md.—National Bureau of Standards. Association for Computing Machinery, Special Interest Group on Computer Systems Installation Management.

Oct. 30-Nov. 1—Gaithersburg, Md.—National Bureau of Standards. "Dimensional Accuracy in Manufacturing." Sponsored by National Bureau of Standards.

INTERNATIONAL COMMERCE REPORT

- Two trade missions in Latin America
- Quarterly report, world exports of manufactures
- Opening of Buenos Aires regional trade center
- Effect of expected German rebound
- Canada's entree for developing nations' goods
- Schedule of U.S. trade promotions overseas

U.S., Soviets Forming Joint Commercial Unit

President Nixon's summit discussions last month in Moscow with Soviet leaders included bilateral trade issues.

The joint Declaration of Principles stressed the importance of commercial and economic ties as an element of the strengthening of overall relations between the two countries.

The two sides agreed that the development of trade ties would be advanced by the conclusion of a trade agreement. It was also agreed to negotiate a Lend-Lease settlement (on World War II obligations of the Soviet Union with the U.S.) concurrently with such a trade agreement.

Given the complexity and interrelationships of the problems involved, no specific agreements on trade were concluded at the summit meeting. As an instrumentality for resolving these problems and to monitor the spectrum of future U.S.-Soviet economic relations, the United States and the U.S.S.R. agreed on the establishment of a Joint Commercial Commission.

This Commission will be charged with negotiating an overall trade agreement including reciprocal Most-Favored-Nation tariff treatment; negotiating governmental credit arrangements on both sides; providing reciprocal establishment of business facilities, and study of possible joint participation in the development of raw materials.

The Commission is to include representatives of U.S. agencies concerned with different aspects of economic relations between the U.S. and the U.S.S.R.

Secretary of Commerce Peter G. Peterson will lead the U.S. delegation to the first Commission meeting, scheduled for July in Moscow.

Some of the other agreements reached at the summit meeting, including those on cooperation in space exploration, in medicine, in environmental affairs and in science and technology, will have a bearing also on U.S.-Soviet economic relations. In the science and technology field, for example, a joint commission has been agreed upon that is charged, among other duties, with facilitating exchanges in the field of industrial technology.

The text of the May 24 joint communique establishing the Joint U.S.-U.S.S.R. Commercial Commission is as follows:

In order to promote the development of mutually beneficial com-

SOVIETS IN WASHINGTON STATE EXHIBITION—*The U.S.S.R. will have a major exhibit at UNIMART '72, the 22nd Washington State International Trade Fair at Seattle Center Coliseum Aug. 11-20. The trade and tourism exposition will have exhibitors from 14 nations. Checking plans are (from left) Jack Fearey, Seattle Center director; Marlen Akopov, of the U.S.S.R. Chamber of Commerce, Moscow; Boris P. Alekseev of the Soviet Embassy, Washington, D.C., and Robert N. Turner, executive director, Washington State International Trade Fair.*

mercial relations and related economic matters between the two countries, Soviet leaders and the President of the United States Richard M. Nixon have agreed to establish a U.S.-U.S.S.R. Commercial Commission.

The U.S.-U.S.S.R. commission is to:

Negotiate:

► An overall trade agreement including reciprocal M-F-N treatment;

► Arrangements for the reciprocal availability of government credits;

► Provisions for the reciprocal establishment of business facilities to promote trade;

► An agreement establishing an arbitration mechanism for settling commercial disputes.

Study possible U.S.-U.S.S.R. participation in the development of resources and the manufacture and sale of raw materials and other products.

Monitor the spectrum of U.S.-U.S.S.R. commercial relations, identifying and, when possible, resolving issues that may be of interest to both parties such as patents and licensing.

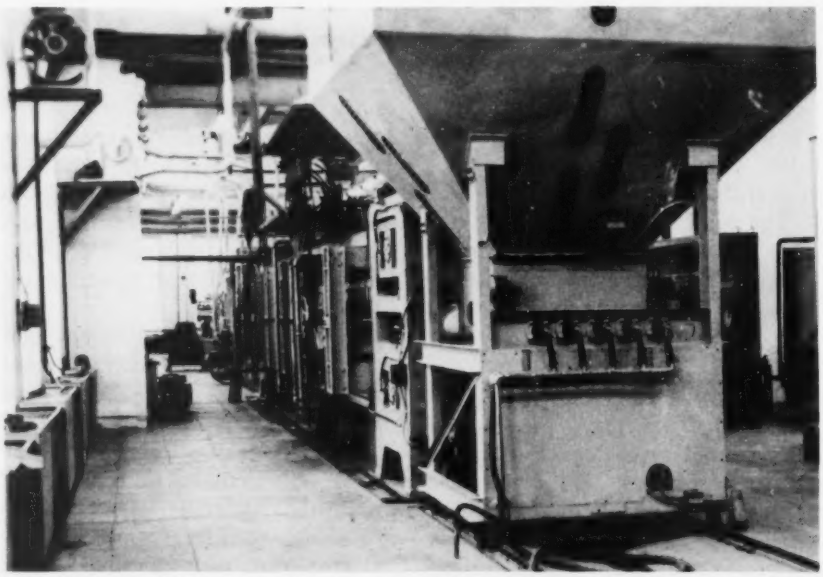
Sessions of the commission will be held alternately in Moscow and Washington. The first session of the commission is to take place in Moscow in July of this year.

Hospital Suppliers To Sell In S. America

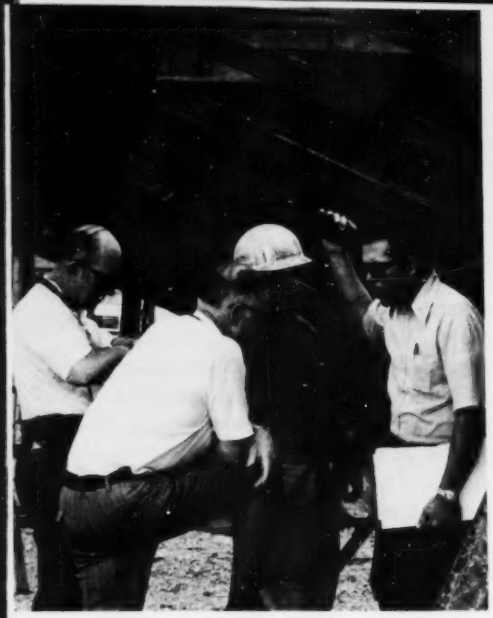
U.S. suppliers of hospital and medical equipment are invited to participate in a trade mission and seminar being planned by the Commerce Department for Brazil and Venezuela in September.

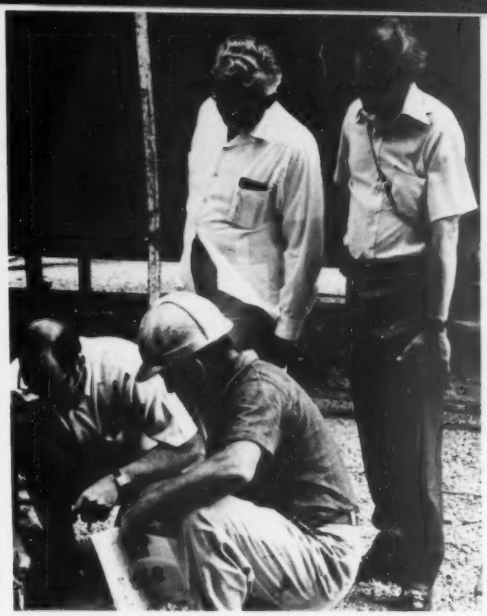
Specific interest centers around x-ray and therapeutic equipment; surgical instruments; clinical laboratory, patient monitoring and diagnostic equipment; portable surgical units, and consulting services for hospital administration. Technical papers by U.S. medical, research and administrative health authorities are to be presented, and round table discussions arranged between mission members and local medical officials. Individual appointments with Government and medical offices will be scheduled.

Write: Trade Missions, BIC-940, U.S. Department of Commerce, Washington, D.C. 20230; phone Lee Carteron, 202-967-2051.



FACTORY FROM U.S. IN U.S.S.R.—*Berner Industries, Inc., of the western Pennsylvania city of New Castle, has completed delivery and startup in the Soviet Union of a plant for continuous manufacture of foamed polystyrene board for commercial and home insulation. The U. S. Department of Commerce Field Office in Pittsburgh assisted Erling Berner of the U. S. firm on export licensing matters. Amtorg Trading Corp. assisted the Soviet agency involved, Techmashimport. Most of the equipment was fabricated in the U. S., sent to Japan for assembly and test, and delivered near Moscow via the Trans-Siberian Railroad.*





SIZING UP BOATYARDS—*At Punta Fijo, Venezuela, Fisheries Mission visited several shipyards. In first photo above, Villa Marina, mission members Paul C. Miller (left) of Johnson Rubber Co., Frank J. Carr, Essex Machine Works, Inc., and yard foreman listen as Sam Simpson, Rockport Yacht & Supply, makes suggestion. Center photo, Stephen Bonfoey (left), Caterpillar Tractor, explains installation to foreman as Cat's distributor A. Magyorossy and Charles L. Newberry of Michigan Wheel look on. Third photo, at left in foreground, Paraguana yard manager G. Pulvirenti points out details.*

Mission Nets Fisheries Equipment Sales Prospects In Peru, Venezuela

Casting for sales in Latin markets, U.S. manufacturers found their commercial fishing equipment to be attractive bait.

A compact group of suppliers that comprised the Commerce Department's Fisheries Trade Mission to Peru and Venezuela recorded unmistakable nibbles during its recent visit, and expects to reel in sizable sales in the near future. In Venezuela alone, the members received requests for quotations totaling $2.5 million.

Peru's present fishery policies and regulations are directed toward protection of the fish meal resource and improvement of fish meal quality; reduction of port and harbor pollution; and increase in utilization of food fish for export and for local consumption. The Government has decided to commit necessary hard-currency exchange toward achieving these goals.

According to Mission Director Richard Eisenmann of the Commerce Department, "The members selling equipment for shore use—such as for unloading and processing—found immediate markets. The members whose products relate only to boats—for example, marine engines and propulsion equipment—expect to do business almost entirely for replacement use, as boat building there currently is almost at a standstill."

Concern about reduction of pollution by fish processors is beginning to create a market for special equipment, Eisenmann observed; however, the strongest potential for sales is in processing, packaging, and distribution equipment.

In Venezuela the mission visited Caracas, the capital and financial center, and Maracaibo and Punta Fijo, the two most important shrimping bases.

Financing of boats and much new industry comes from the Government's Venezuela Development Corp. Regional development corporations also are interested in fisheries. Demand for boats is greater than shipyard capacity. Venezuela allows import of fishing boats, and there is keen appreciation of American trawlers, the mission reported.

UNDERWATER EQUIPMENT—*At Paraguana yard, Simpson and Pulvirenti discuss an installed Michigan propeller.*

ON LOCAL SCENE—*Automotive maintenance equipment will be needed to service vehicles being assembled in both countries. About 90 a day are produced at Ford Motor plant in Valencia, Venezuela, above. Though Venezuelan industry provides various parts for assembled autos, other parts not made in the country were imported in 1970 to a value of several million bolivares. Importation of autos was halted that year, but close to 70,000 vehicles were assembled in the country.*

Auto Maintenance Equipment Mission Sees Sales In Colombia, Venezuela

A four-fold message for U.S. suppliers interested in Colombian and Venezuelan markets for automotive and servicing equipment:

- To penetrate the market in Colombia, be prepared to discuss joint venture and licensing arrangements. In Venezuela, the greatest market potential is for products not yet seen in the country.
- In Colombia, visit Bogota and other cities as well. In Venezuela, Caracas will probably be sufficient for obtaining adequate representation.
- Make an effort to speak Spanish, have sales literature in Spanish, and don't overlook the importance of a personal sales visit.
- Consider attending or exhibiting in the Bogota International Trade Fair, Aug. 5-20.

These pointers are offered by a U.S. trade mission that returned last month from exploring markets in Bogota, Cali, Medellin, and Caracas. The six business members—all seasoned exporters—found it substantially to their advantage that three of the group spoke Spanish. Their companies produce such equipment as gasoline dispensers, air compressors, consumer pumps, mechanics' hand tools, automatic car washes, auto and heavy-vehicle parts and accessories, and a multipurpose jack. Initial sales are estimated at $500,000, and longer-term potential at several million dollars.

Interest in maintenance

Mission leader Jack Marshall, who is acting director of the Jacksonville Commerce Field Office, sketched the market picture in each country in statistical terms: Colombia, population 21 million, motor vehicles 296,000; Venezuela, population 10 million, motor vehicles, 854,000. He observed that the well-cared-for appearance of the vehicles in both countries indicates interest in maintenance and servicing. "Made-in-USA" products are highly regarded, he pointed out.

Ernest Rodriguez, Automotive Parts Division, International, Borg-Warner Corp., Franklin Park, Ill., observed: "Colombia is a good market for our products, even though local manufacture of many items prohibit the importation of similar products. The level of market potential is also affected by the availability of foreign exchange."

P. J. Harrah, Bloomfield Manufacturing Co., Bloomfield, Ind., reported initial penetration of the Colombian market with a company having numerous sales outlets throughout the country able to handle his line of lifting jacks. "There is no direct competition for the Bloomfield line in Colombia," Harrah said, "as our products are specialized in function and design." He added that the Venezuelan market is "hot for our product and should expand."

W. L. Westermann, Detroit Autobody Equipment Co., Mt. Prospect, Ill., observed that in Venezuela there seems to be a genuine interest in new products adaptable to the market. Businessmen were helpful in suggesting the best ways of entering and remaining in the market, he commented.

Having already had experience with other foreign competitors, reported Anthony Barrett, Peter A. Karl, Inc. of Utica, N.Y., "the Colombian buyer today is more inclined to buy American products."

Joseph Vittone, EMPI-Engineered Motor Products, Inc., Riverside, Calif., indicated that for his products "the competition is severe from both Japan and Europe."

Charles Dine, Hanna Industries, Milwaukie, Ore., said that "the auto population in Caracas can support about 25 washes. The Bogota market can support 10 machines over the next 18 months."

Manufactures Market: U.S. Share Slips To New Low

The U.S. position in the world market for manufactures, excluding shipments to this country, slipped to a new low during 1971.

The share for each quarter during the past year was lower than its 1970 equivalent, the drop for October-December being particularly severe. As a result, this country's standing suffered its steepest annual decline in more than a decade as it sank to 19.9 percent.

Exports of manufactures by the 14 leading suppliers rose by more than 11 percent in 1971 to reach $155 billion. Meanwhile, shipments from the United States expanded much more slowly, advancing by less than four percent to $31 billion. Throughout the year, U.S. exporters were hampered by flagging demand for their products in most major markets, and, in the second half, by dock strikes at various ports in this country.

The sluggishness of U.S. exports and resultant decline in share extended to all product groups except transport equipment. Deliveries of both electric and nonelectric machinery grew only nominally while those of chemicals held virtually even. Shipments of "other manufactures," a diverse group comprising mostly semi-finished goods and consumer nondurables, declined by more than five percent.

Transport equipment gains

Only in transport equipment did the United States enhance its standing in 1971. Shipments of automotive products to Canada, the outlet for the bulk of these items, climbed by nearly one third. Meanwhile, sales of civilian aircraft continued buoyant, as deliveries to the Netherlands, Australia, India, Israel, and the Republic of South Africa soared. Military aircraft also expanded sharply following a decline in 1970. Railway vehicles, which had advanced only marginally in preceding years, more than doubled in 1971. As a result of these gains, the U.S. share of the transport equipment market climbed to 29.5 percent, thus regaining some of the ground lost the previous year.

Nonelectric machinery, the largest group of U.S. manufactured exports, suffered the most severe loss in share, dropping more than two and one-half points. Exports of electronic computers showed only a slight gain, after a huge advance in 1970, while sales of conventional office machines fell as demand for U.S.-made lines declined in several large markets. Shipments of rolling mill equipment expanded by half but reduced exports of machine tools offset the gain. On the other hand, stepped-up deliveries of automotive products and aircraft led to increased sales of both types of engines.

The U.S. position in the chemicals market likewise weakened substantially. Shipments of organics decreased as expanded production capacity in Europe adversely affected the demand for U.S. products, especially in Belgium, the Netherlands, and Germany. Sales to Japan also declined below 1970 levels. On the other hand, deliveries of nuclear fuels rose sharply, for the most part to Germany, Japan, and Switzerland.

As economic boom conditions subsided, most advanced nations severely reduced their demand for U.S. industrial supplies, a major component of the "other manufactures" group. As a result, the U.S. share diminished by nearly 2 points to 12.2 percent. Shipments of iron and steel mill products dropped by more than one third. Primary forms incurred a large part of the loss. Meanwhile, sales of nonferrous metals, especially aluminum and copper, similarly fell. Conversely, exports of paper, cotton fabrics, and photographic equipment and supplies recorded substantial advances.

In electric machinery, the United States likewise experienced a reduction in share, to 21 percent. A major portion of this decline was attributable to lower shipments of electronic components, mainly color TV picture tubes to Germany and transistors to Japan, Switzerland, and Germany, as well as a leveling off in sales of instruments. By contrast, exports of electric power generating machinery scored notable gains. Stepped-up deliveries of color television sets to Canada helped boost overall sales of radio and television apparatus.

Germany passes U.S.

Three of the five leading U.S. competitors, Japan, Britain, and Germany, significantly expanded their shares of world exports of manufactures in 1971. During the year, Germany, with over 20 percent of the total, replaced the United States as the principal supplier of such products to markets outside this country. Earlier, in 1970, Germany had become top exporter to the world including shipments to this market.

Japan recorded by far the largest increase last year, improving its position notably in each major group of manufactures to raise its overall standing to almost 10 percent. Japanese exporters posted their strongest gain in transport equipment as shipments of passenger cars, and ships and boats, surged. Stepped up sales of iron and steel and textiles provided the impetus for a substantial rise in "other manufactures," while gains in exports of telecommunications equipment helped boost its share of the electric machinery market. The smallest increases occurred in chemicals and nonelectric machinery, but, even in these, Japan's

share expanded by at least half a point.

The United Kingdom also increased its standing substantially in 1971, recovering to the 11 percent share it held in 1969. This improvement was especially marked in nonelectric machinery which rose almost one point, due largely to higher exports of power-generating machinery, mechanical handling equipment, and heating and cooling apparatus. Stepped-up diamond sales buoyed the U.K. share in "other manufactures." The British position in chemicals and electric machinery also improved but weakened in transport equipment, despite greater sales of motor vehicles and aircraft.

Strong performances in three commodity groups enabled Germany to enhance its overall standing by nearly half a point. Rising deliveries of textile and metalworking machinery helped expand the German share of nonelectric machinery, and increased sales of power machinery and telecommunications equipment did the same for electric machinery. Meanwhile, higher exports of textiles, iron and steel, and paper and paperboard led the advance in "other manufactures." The German standing in transport equipment and chemicals held even.

Italy's position improved modestly during 1971 while that of France held steady from the previous year. In "other manufactures," Italy increased its share by nearly one point as textile and iron and steel exports rose rapidly. This gain was largely offset, however, as sizable losses in nonelectric machinery and lackluster performances in the other groups held the Italian share to 7.3 percent. Similarly, French gains and losses countered each other. Only in nonelectric machinery did the French standing advance significantly, while falling in electric machinery and transport equipment and holding even in the remaining two groups.

U.S. SHARE OF WORLD EXPORTS OF MANUFACTURES

Commodity	U.S. exports (million dollars)	U.S. share (% of world exports to foreign markets [1])
Manufactures, total		
1958	11,221	27.7
1959	10,867	25.6
1960	12,716	25.3
1961	12,924	24.1
1962	13,835	24.6
1963	14,459	23.6
1964	16,718	24.0
1965	17,648	22.8
1966	19,510	23.0
1967	21,090	23.3
1968	24,113	23.6
1969	27,132	22.5
1970	29,730	21.3
1971	30,852	19.9
Chemicals		
1958	1,410	29.6
1959	1,562	29.1
1960	1,779	29.6
1961	1,793	28.2
1962	1,880	27.9
1963	2,013	26.9
1964	2,369	27.1
1965	2,407	24.7
1966	2,693	24.6
1967	2,812	23.7
1968	3,296	24.2
1969	3,393	21.9
1970	3,840	21.9
1971	3,857	19.9
Nonelectric machinery		
1958	2,818	35.0
1959	2,835	33.8
1960	3,250	32.7
1961	3,605	31.1
1962	3,945	30.9
1963	4,062	30.2
1964	4,678	31.4
1965	5,068	30.9
1966	5,578	30.1
1967	5,984	30.2
1968	6,347	29.4
1969	7,223	28.8
1970	8,444	28.1
1971	8,569	25.5
Electric machinery		
1958	1,067	32.8
1959	1,045	30.6
1960	1,090	28.2
1961	1,231	27.0
1962	1,367	27.3
1963	1,501	26.8
1964	1,676	26.2
1965	1,674	24.0
1966	1,916	25.2
1967	2,117	25.8
1968	2,303	25.1
1969	2,703	24.4
1970	3,033	22.7
1971	3,100	21.0
Transport equipment		
1958	2,491	35.3
1959	2,188	32.0
1960	2,671	33.2
1961	2,515	30.5
1962	2,748	31.9
1963	2,710	28.2
1964	3,058	28.4
1965	3,455	28.4
1966	3,727	28.7
1967	4,539	31.8
1968	5,882	34.3
1969	6,570	32.4
1970	6,542	29.0
1971	7,944	29.5
Other manufactures		
1958	3,434	19.7
1959	3,237	17.6
1960	3,926	17.6
1961	3,781	16.6
1962	3,895	16.8
1963	4,172	16.7
1964	4,937	17.0
1965	5,044	15.8
1966	5,596	16.1
1967	5,638	15.5
1968	6,285	15.5
1969	7,243	14.8
1970	7,871	14.0
1971	7,382	12.2

Note: The term "manufactures" refers to chemicals, machinery, transport equipment, and other manufactures except mineral fuel products, processed food, fats, oils, firearms of war, and ammunition.

[1] World exports are defined as exports from 14 industrial countries. These nations, which account for approximately four-fifths of world exports of manufactures to foreign markets, are: United States, Austria, Belgium-Luxembourg, Canada, Denmark, France, Federal Republic of Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and Japan. Exports to foreign markets are total exports excluding exports to the United States.

Trade Fairs, Centers

Three Trade Center Shows Are Seeking U.S. Exhibitors

Vacuum and cryogenics equipment: Japan. An exhibition of this equipment at the U.S. Trade Center in Tokyo Sept. 18-22 offers manufacturers an excellent showcase.

Japan provides a promising market for thin film deposition devices and thin film products, as well as a wide range of equipment and devices for cryogenics and high-vacuum engineering. Market research recently conducted in Japan for the Department of Commerce indicates that end-users of vacuum and cryogenics equipment are constantly on the lookout for new and unique products with reduced installation and operating costs or which demonstrate very high performance. Compared with U.S. products, those produced in Japan are usually of lesser quality and reliability. Delivery from Japanese manufacturers is very slow and often not as specified. Confronted with this situation, Japanese end-users, mainly scientific research laboratories of universities and industrial companies, will welcome advanced, readily available equipment and instruments from the United States.

The market for vacuum and cryogenics equipment in Japan is impressive. The number of end-user industries to which this exhibition will be directed is large; major ones include electronics, foods, medical, metallurgy, industrial gases and petroleum, storage and transportation, and research and development.

Call Bill Dawson at 202-967-5286, or write him at BIC-950, U.S. Department of Commerce, Washington, D.C. 20230.

Materials handling equipment: France. The market for materials-handling equipment and components in France is estimated at $605 million. Sales over the past three years have shown a consistent annual increase of not less than 10 percent, with some categories registering gains of 30 to 50 percent. The French Sixth Economic Plan for 1971-75 estimates an average annual increase of 13 percent during the period.

Domestic production does not fully satisfy this demand. France relies on imports for about 20 percent of total consumption. While specific statistics for imports are not available, it is estimated that they amounted to $171 million during 1970. Of that total, U.S. manufacturers supplied about $6 million in direct imports. In addition, many components of U.S. manufacture are imported for local assembly by licensees or subsidaries manufacturing in France.

To help U.S. companies take advantage of the opportunities offered by the French market, the U.S. Department of Commerce will sponsor an exhibition of materials handling equipment and components at the U.S. Trade Center in Paris, Oct. 16-20.

For information, call John L. Wolf at 202-967-4974, or write him at BIC-948, U.S. Department of Commerce, Washington, D.C. 20230.

Electro-optics and lasers: United Kingdom. The British are buying more electro-optics devices and components—as much as $10 million worth by the end of 1972—according to trade sources. Growth rate estimates for various segments of the electro-optics field range from 10 to 25 percent over the next 2 or 3 years.

U.S. suppliers stand to profit from rising British interest in these products, and the U.S. Trade Center in London has scheduled a Nov. 13-17 show to help them probe the growing markets for infra-red, lasers, fiber optics and optical measuring instruments.

R&D continues to be the largest user group. Trade sources state, however, that industrial applications will account for a rapidly increasing portion of equipment sales. Previous rosy expectations for the industrial application of electro-optics equipment have not been realized, although effective selling techniques, including adequate after-sales training, and cost/benefit considerations are overcoming the British industrial buyer's earlier resistance. Trade sources report increasing numbers of serious inquiries—and orders—from industrial buyers.

A two-day technical seminar will be staged at the Trade Center in conjunction with the exhibit.

Details are available from George Kemp at 202-967-3088, or by writing to BIC-938, U.S. Department of Commerce, Washington, D.C. 20230.

Two Foreign Shows Invite Exhibitors of U.S. Goods

Two upcoming trade fairs have been suggested by U.S. Commercial Officers for substantial trade opportunities for U.S. exporters.

Fifth National Congress of Data Processing, Oct. 16-20, Hotel Gloria, Rio de Janeiro: Provides U.S. producers of electronic data processing equipment with access to the top customers in the Brazilian market. For details, contact Raul Isiris, Sec. Gen., SUCESU, Rua do Resende, 37-6° andar, Rio de Janeiro.

Fourth International Gift Trade Fair, Feb. 17-22, Wentworth Hotel, Sydney: Is an effective means of introducing products on the consumer market in Australia and the Southwest Pacific area. Contact Miss Christine McMahon, Suite 11, 144a High St., North Sydney 2060, Australia.

TWO VIEWS—*Trade Center entrance, as seen from outside (l.). Through these portals will pass sales prospects from southern South America. At right, part of the enthusiastic crowd which attended the Center's opening show.*

REPRESENT U.S.—*U.S. Ambassador to Argentina John Davis Lodge and Commerce Department General Counsel William Letson, at right, inspecting exhibits on opening day.*

U.S. Regional Trade Center Has Buenos Aires Inaugural

Commerce's drive to increase trade with Latin America should get a strong boost from the U.S. Regional Trade Development Center in Buenos Aires which opened its doors May 15 to enthusiastic crowds of potential buyers. The first such operation in South America, the center will service markets in southern countries of the continent.

After the invited dignitaries, including the Argentine Ministers of Commerce and Industry, assembled, U.S. Ambassador John Davis Lodge made his remarks and more than 2,200 registered visitors, soon crowded the exhibit of quality control equipment. A remarkably high 80 percent of the targeted buyers who had received personal invitations attended the show.

The quality control seminar which helped to open the show attracted a capacity audience of 260.

In the week that followed, the 15 exhibitors made off-the-floor sales of $59,000, with another $721,000 in sales expected to result in the coming year from the 1,347 trade leads which were developed during the show.

Three exhibitors were seeking agents, and two were appointed during the show.

"This exhibition was most effective in attracting well qualified people in the field," said Geoffrey Chalmers, director of international operation for Vishay Intertechnology.

"We met with senior people from companies who were not aware of how our products could assist them. The results have exceeded our expectations, and we have been able to lay a foundation which would have been difficult to achieve in any other way."

FULL HOUSE—*A capacity crowd heard Ambassador Lodge (far right) open the seminar which was held during the quality control exhibit.*

Worldwide Business Outlook

Expected German Rebound Should Advance U.S. Sales

The German economy is expected to begin picking up in the second half of this year. Although U.S. export sales to Germany have been dampened by the recent downturn, notes the U.S. Embassy in Bonn, long-term prospects for U.S. sales appear bright if recovery gets under way as anticipated.

A pronounced slowdown in German business activity, often heralded prematurely during the last two years, made its appearance in the second half of 1971. During that period real GNP rose only 1.5 percent above the last six months of 1970. Real GNP for 1971 as a whole was only 2.8 percent above 1970. Inflationary pressure, moreover, receded only slowly in 1971, even as total demand decelerated.

Investment expenditure was the most noticeable element in the 1971 downturn. Fixed investment which, in current prices, grew at a rate of over 18 percent in the first half of 1971 was up only 6.4 percent in the second half. In constant prices, fixed investment actually fell 0.6 percent below the level of the second half of 1970.

The growth of exports of goods and services slowed less dramatically, from 11.5 percent in the first half to 6.3 percent in the second.

The unemployment rate eased upward during the second half, rising from 0.7 percent in July to 1.2 percent in December.

Upturn predicted

German forecasters predict real GNP will grow by between 1.5 and 3 percent in 1972, with unofficial estimates tending toward the lower end of that spectrum. For the second half a renewal of real growth is generally expected.

The most recent survey of investment intentions (Ifo Institute) shows that new real industrial investment in plant and equipment might decline by as much as 9 percent in 1972.

FRANKFURT SHOW—*A representative of Northern Scientific, Inc., Middleton, Wis., briefs visitor during a Nucleonics Show earlier this year in Frankfurt.*

In striking contrast to the months before the Mark was floated in May 1971 (when export orders were coming in at year-on-year growth rates of 12 percent and higher) new industrial export orders were below previous year levels during the October to January period. Private consumption continues to grow, but the growth rate has been reduced by slower growth of disposable income. The latter reflects slower growth in wages and salaries and fewer total hours worked in industry. Moreover, the savings rate, as a percent of disposable income, rose sharply in the second half of 1971—to 15 percent—and will cut further into private consumption expenditures if it continues above average.

Factors pointing to recovery in the second half include more stable foreign exchange markets, anticipated stimulation by the public sector and easier monetary policy. There have, in fact, been some indications that recovery may already be under way.

These indicators are not conclusive evidence that the trough of the current business cycle has been reached, but if total demand has now begun to reaccelerate the resulting pressure could well endanger the ongoing effort to reduce the rate of inflation. Current forecasts predict the cost-of-living will increase by between 4.5 and 5 percent in 1972, and forecasts for the GNP deflator range between 5 and 6 percent. It would probably be necessary to revise these estimates upwards if recovery is already under way.

In response to the possibility of early recovery, the Government has announced that it does not now plan to activate all of the fiscal measures at its disposal in 1972. It does plan to repay some DM 5.9 billion of a previous income tax surcharge to taxpayers and has already repayed another DM 1 billion to social security beneficiaries. Bundesbank officials have also made it quite clear that, although

the Bank acted to reduce the rediscount rate in February, that step was taken to halt the inflow of short-term capital rather than to stimulate the domestic economy.

Slower economic activity in recent months has offset, to a certain degree, the short-term benefits of the devaluation of the dollar which might otherwise have accrued to U.S. goods on sale in Germany. Longer-term prospects for U.S. sales should be excellent, however, if the economy turns upward in the second half, as expected. The U.S. dollar has now been devalued by a cumulative total of over 20 percent against the Deutsche Mark since 1969, and a range of U.S. products should be more competitive in this market. U.S. products will also have a more favorable position vis-a-vis third country competitors.

A recent survey conducted by all U.S. Foreign Service posts in Germany—which covered approximately 90 percent of 1971 U.S. exports—indicates that several categories of products should be significantly responsive to the currency realignment. These include: pumps, valves and compressors; chemical and plastic products; certain sporting goods; selected products in shipbuilding supplies and components area; paper and paper products; and construction materials and equipment.

The survey shows another category of goods which would have done well even without the realignment. These are basically high technology in character and are items where price is not the determining factor. Included are: business machines, aerospace equipment, electronic components, and the high technology segment of electrical production equipment.

A third category encompasses those products which should profit from the realignment but which are difficult to identify because they have not yet entered the German market on a large scale. Some lines which were not competitive previously may have been brought into competitive range by the realignment. American exporters who tested the German market in the last year or two and found their products priced 15-20 percent too high to be competitive should give serious consideration to a re-test. In particular a wide range of American-made consumer goods (subject to such factors as styling, taste and electrical characteristics) fall within this category. Despite the economic downturn, consumer buying has held up well.

Not the whole story

Price, of course, is not the whole story. In many cases, importers, end users and trade associations interviewed in the survey were careful to point out that the competitive edge gained through realignment can be fully exploited only if attention is also given to performance in such non-price areas as advertising, distributor support, delivery dates, after-sales service, and aggressive marketing. Even in the sophisticated 1970s, American exporters as a group continue to be faulted for their failure to prepare sales literature in German.

Market research for exhibitions at the U.S. Trade Center in Frankfurt reveal excellent sales potential for pollution control equipment (samplers and analyzers, measuring instruments), advanced medical equipment (sophisticated electronic, nuclear ultrasonic and optoelectronic equipment for medical diagnosis and therapy), and analog measuring and computing devices (sensors-transducers, amplifiers, recorders, operational amplifiers, and analog and hybrid computers).

Market studies conducted for German trade fairs indicate strong sales prospects for U.S. printing equipment, controls and accessories and for advanced aerospace and avionics equipment.

Liberia Suggested As Headquarters For Firms Locating In West Africa

Thinking of expanding operations to Africa, and, in particular, West Africa? John W. Bligh, Jr., Economic-Commercial Officer at the U.S. Embassy in Monrovia, suggests that you consider locating that new regional headquarters in Liberia.

Liberia is a country with a unique history and an historic special relationship with the United States. Liberia has a lot going for it in terms of appeal to the American businessman: a U.S. dollar national currency; an English-speaking population; good external communications and transportation; a government committed to free enterprise; and a more open attitude toward foreign capital than many African states.

Let's be specific, says Bligh. The Liberian national currency is the U.S. dollar and there are no capital flow or other currency restrictions. These features make for ease of invoicing and price-cost quotations and, for American traders, eliminate exchange rate risks and conversion problems. To make things even easier, four major U.S. banks have affiliates or branches in Liberia.

Other advantages

Liberia boasts an excellent international telecommunications system and Liberia's airports are important stops on the routes of a number of international air carriers including Pan American. The free port of Monrovia is the major deep-water port and offers duty-free transhipment facilities. Monrovia is a regular port of call for a number of shipping lines including the U.S. Farrell and Delta Lines. There is a smaller deep-water port

at Buchanan, while Greenville and Harper have docking facilities for coastal vessels.

Liberia is a trading country. Liberia had a two-way trade total of $363.7 million in 1970 against an estimated GNP of $321 million. While a primary goods exporter and a finished and consumer goods importer, Liberia has consistently maintained a favorable balance of trade, including 1970 when it logged a $64 million surplus.

U.S. has slipped

The United States remains Liberia's principal trading partner but its once dominant position has slipped. Competitors are the EEC, particularly West Germany, and Japan. U.S. sales to Liberia in 1970 were $46.4 million, accounting for 30 percent of total imports. Although the sales figure was up $7.5 million from the previous year, the market share was off from the 35 percent of 1969. For 1971 a year-end import total of $150-155 million may be reached with, perhaps, a modest gain over that figure in 1972. American suppliers should account for about 32 percent of these sales.

What can you sell here? Here's a sample of American-made products that stood number one in sales in the Liberian market place in 1970: home and central airconditioners; construction and excavating equipment; general aviation and auto parts; cars over 2800 cc.; household refrigerators; cigarettes; unmilled wheat; milled, parboiled, and packaged rice; books, pamphlets and printing; killed and dressed chickens; locomotive and agricultural implement parts; and men's suits.

What looks good for 1972? More of the same, old reliables such as mining and earthmoving equipment, processed foods, airconditioners and other consumer durables, and consumer non-durables. Efforts to raise the general level of Liberian economic development will require major inputs of technical expertise for feasibility, engineering, and marketing studies, and consultative, advisory and managerial services. International assistance agencies are committed to programs that will involve significant amounts of technical assistance as well as equipment and materials. External assistance to Liberia totalled just under $21 million in 1971 and should be as high or higher through the mid-70's.

THIS IS MONROVIA—*The author of this article suggests Liberia as a base for operations in West Africa. This view of Monrovia shows the Capitol building.*

Some difficulties

Doing business in Liberia is not without its difficulties. First and foremost, the market is small—Liberia's population is only 1.6 million and as many as 75 percent of the people live on the edge of or outside the monetary economy. Third country competition in the market is strong and ocean freight rates from the United States are high. The domestic consumer credit system is underdeveloped. In addition, the country's shortage of schools and particularly of technical training institutions handicaps both Liberian labor and its employers. As a result, large concessions and business houses have had to rely on non-Liberians to fill most managerial and supervisory posts. The Liberian Government, nonetheless, is currently pushing a policy of "Liberianization"—replacing these expatriates with Liberian citizens.

The economy does not show the buoyancy of the late 1960s, largely as a result of lower world prices for iron and rubber. There is a liquidity squeeze brought about by these lower prices and compounded by a low level of confidence among businessmen that has stimulated profit repatriation and reduced inventories. The absence on the near horizon of major investment projects and the recent imposition of price controls on a few selected food items have not been without unfavorable impact. The implications of a current renegotiation of a major concession agreement will, obviously, affect future investor confidence.

There is, also, a number of legal or effective monopolies in Liberia: e.g., the local producers of paint, explosives and cartridges, cement and certain types of batteries hold monopolies on the manufacture of these items although the importation of competitive products or of items not in their product lines is permitted in some instances.

In sum, an enterprising individual or firm, willing to assume some risks, alert to the sales generating potential of development efforts, able to serve various sectors of the economy and capitalize on this country's advantages as a regional headquarters, and willing to make close personal contacts can earn a fine profit or return on investment in Liberia.

SINGAPORE'S NEW SKYLINE—*This is what Singapore's waterfront area will look like in two or three years. A model of the Shenton Way urban renewal project made by Singapore's Urban Renewal Department, it is now under construction.*

Investment Boom, Currency Shifts Boost U.S. Exports To Singapore

Singapore's economy grew by 14 percent in 1971, about twice the expected rate, and is still moving fast in 1972. Imports from the United States this year should expand by even more than 1971's 35 percent, responding to more U.S. investment and the currency realignment.

Exciting market

The most exciting market in Singapore for U.S. exporters, according to John H. Penfold, Economic-Commercial Officer at the U.S. Embassy there, is the exploding manufacturing industry. Last year it enjoyed a 30 percent growth in output and it continues to accelerate, spurred by foreign investment. Foreign investors have accumulated over $1 billion in fixed assets, and have committed another billion over the next few years.

If U.S. sales respond to U.S. investments as they have over the last decade, they should rise close to 60 percent in 1972, reaching up beyond the half-billion dollar mark.

Petroleum refining remains the largest recipient of foreign investment, and accounts for a third of the total output of manufactured goods. In 1971, the refining capacity was increased by 250,000 barrels per day to a total of 618,000, and output is expected to reach a million barrels by 1975. Giving breadth to Singapore's oil business is a new plant for hydrocarbon solvents and two lubricant plants; in fact all Singapore refineries are undergoing expansion and elaboration.

Next is the transport equipment industry, including shipbuilding and repairing, which grew by 33 percent last year to reach a $100 million turnover. Largest addition to the shipbuilding industry is the Mitsubishi $70 million investment on a man-made island off Jurong Industrial Estate to be completed by 1974. Swan Hunter, U.K. manager of two of Singapore's largest shipyards, plans to build a giant dry-dock at Sembawang capable of taking 400,000-ton tankers. Continued expansion in this industry will provide a growing market for a host of supportive products and services.

Third in scale is an electrical industry including 46 firms and making semiconductor devices, integrated circuits, electronic components and finished products such as television sets, radios, tape recorders, fans and power transformers, for a total output of over $130 million.

Next largest industry is chemicals and, with the currency realignment, U.S. chemical sales should pick up markedly. Also important to this industry are measuring instruments, regulators, gauges, etc. The plastics industry, with over 30 firms, is also an attractive market for U.S. chemical producers.

Companies like North American Rockwell, Barden, Boise-Cascade, Timex, GE, Hewlett-Packard, and Texas Instruments; Rollei-Werke and Siemens of Germany; Philips of Holland; and Japan's Hitachi, have helped diversify the industrial sector. In the Jurong Industrial Estate alone, there are now 342 factories in production, 34 under construction, 50 more announced but yet unbuilt, and 14 recently allocated space.

Other opportunities

In addition to the market for capital goods and industrial supplies which these investments create, U.S. exporters and service companies should be alert to opportunities arising from the strain this growth places on local ancillary services such as underwater cleaning, rust coating, cleaning chemicals, etc., for ship repair; computer hard- and soft-ware; and engineering; as well as communications, transportation, power, water and other services that will require either inputs of foreign expertise or equipment.

The nature of investment in Singapore is changing in response to the government's policy of seek-

ing clean, high-technology, capital-intensive industries which bring access to export markets with them, and which promise to raise long-term productivity of the nation's limited population. There has been a recent influx of metalworking industries, such as tool and die making, ball bearings, and steel crushing balls, as well as metal chains, and fittings and components for the shipbuilding and repairing industry.

Specialization necessary

Together with shipbuilding, the new metalworking industries may herald such long-term developments as an integrated steel mill. Since Singapore seeks to become a regional center for advanced technology, some degree of specialization will be necessary, and metalworking would be a logical area for such emphasis.

The 1971 building boom saw continued construction of public housing and luxury hotels, and was stimulated by private investment in high-rise office buildings and industrial plants. This year's strain on construction resources will be houses and flats for middle-, upper-middle, and upper-income families. The Housing Development Board plans to place half of the population in public housing by 1975.

Demand for Board flats is outstripping supply, and the construction industry is perpetually in an overheated state, resulting in a strong market for equipment, and engineering and building techniques that will help raise the labor-short industry's productivity.

Also in urban renewal plans for the 1970s is the development of tourism infrastructure, including 31 government projects and eight private projects planned for Sentosa Island. Over $3.5 million will be spent on tourism infrastructure in 1972.

The explosive growth of the manufacturing sector keeps heavy pressure on the Public Utilities Board. So far, the Board is keeping pace with the economy, showing a 13.7 percent expenditure growth in 1971. A record $29.5 million will be spent for new power and water facilities in 1972. As industry continues to grow, power and water demands will rise accordingly, and U.S. engineers should follow these developments closely and directly.

An unabridged copy of the report on which this article is based is available free from BIC-976, Department of Commerce, Washington, D.C. 20230. Ask for report 72-05-305.

As an entrepot port, the site of numerous multinational corporation investments, a regional financial center, and the headquarters for numerous sales organizations, Singapore must keep its transport and communications infrastructure efficient and modern. To keep pace with rapidly expanding traffic and to prepare for its future, the Singapore Port Authority is investing heavily in warehousing and storage facilities, rationalization of cargo handling, and billing and servicing operations, and continues to push ahead with construction of a $27 million container port with elaborate ancillary services.

Civil aviation likewise is expanding rapidly. There are 29 scheduled airlines operating through Singapore, and projected passenger movements show a rise from about 1.6 million in 1970 to 11.2 million annually by 1980.

Telecommunications received new sophistication as an earth satellite station was opened on Sentosa Island in late 1971. A 10-year program has been formulated to meet the nation's telecommunications requirements.

The government has decided to make Singapore a regional medical center by developing health facilities. New industrial safety standards will generate a market for protective devices, and new and expanding health coverage programs for workers will put greater strain on existing medical infrastructure, including surgical and institutional equipment.

U.S. consumer goods are still too expensive for the mass market, but rising levels of income (per capita GNP in 1971 was $1,100) mean a growing market for high-quality consumer items, including ready-made clothes, fashions, ladies undergarments, cosmetics, specialty foodstuffs, meats, beverages and books. Education-minded (and English-speaking) Singapore should provide a market for home-study courses in technical and related fields.

Singapore likes sports and prefers superior U.S. sports gear in a market attractive for practically all such equipment. U.S. sporting goods sales would benefit handsomely from a major promotional effort in this market, which would include Malaysia.

Improving entrepot services

The decision by some of Singapore's neighbors to export directly will slow the growth of Singapore's entrepot trade, and could lead to a decline. This sector is important to Singapore's future as it generates vital foreign exchange and a high rate of savings. Singapore, however, is responding to the challenge by exploiting its alternatives, and at the same time improving the entrepot services it offers. The healthy growth of Malaysia and Indonesia's economies are as important to Singapore as is the continued growth and development of Singapore's ability to service them.

Penfold does not see, therefore, any economic reason for Singapore's traditional entrepot role to plummet, but rather to be gradually augmented and replaced by more sophisticated service exports. Singapore will continue to increase its purchases of U.S. goods and services so long as those products offer sophistication, service and relevance to the island republic's rapidly modernizing economy.

Active Economy, Growing Reserves Should Boost Turkey's Import Rate

Turkey's economy continues to score impressive gains, despite unsettled political conditions and the persistent cloud of inflation.

The 9.2 percent growth in GNP in 1971 was largely due to a record harvest. Industrial production increased but fell short of the 12 percent that had been planned for the year.

Investment increase

The Government is trying to stimulate the economy in 1972 with a massive increase in public investment. Emphasis is on projects whose completion would help counter inflation, a growing problem in 1971.

Before 1971, according to Norman W. Getsinger, Commercial Attache at the U.S. Embassy in Ankara, Turkey's biggest external economic problem was a persistent balance of payments crisis. By the end of last year, however, the country had acquired reserves of over $750 million, and the total was growing. The payments crisis was largely overcome by vastly increased (up 72 percent over 1970) workers remittances of $471 million which alone more than covered the trade deficit of $450 million. For the next few years, at least, the effect of worker remittances on Turkey's ability to import will be as important to the economy as a rich oil strike.

In 1971, Turkey's foreign trade volume grew by 20.3 percent with both imports and exports exceeding planned targets. Imports amounted, for the first time, to over a billion dollars ($1,171 million), 23.6 percent higher than in 1970. As a reflection of the eased balance of payments situation, a further increase to $1.45 billion is programmed for the current year.

COMMERCE OFFICIAL IN ANKARA—*Bert Planagan, the Commerce Department's Turkey Desk Officer, addresses U.S. and Turkish businessmen during a recent visit.*

In the 1972 import program "liberalized" imports (without quantitative restrictions) exceed the value of the quota imports. Only 8 percent of programmed imports are consumer goods. Three-fourth of programmed imports are reserved for direct import by industrialists. As an indication of the government's intention to stimulate investment, the private sector investment quota is established at $250 million, over seven times the 1971 figure.

Better U.S. showing

The comparatively better showing of U.S. competitors in the Turkish market was due, in part, to their position as suppliers of the raw materials which constituted much of the 1971 Turkish import increase. Furthermore the U.S. shipping strike hit when Turkish imports were just picking up at the end of the year. Fortunately there are several areas of underlying strength in U.S. exports to Turkey which provide opportunities for improvement.

Machinery and transport equipment sales increased in 1971 and should continue to account for half of U.S. sales to Turkey. The situation should improve with substantial Exim-backed sales of earth-moving equipment to the public sector, and with the expected pickup in investment goods imports for both public and private sectors.

The market for U.S. mechanical handling equipment doubled to reach $7 million in 1971, while pumps and centrifuges moved up from $3 to $5 million.

Sales of transport equipment have been over $30 million in each of the last four years. In 1972-73 they should provide the bulk of U.S. sales in the Turkish market. In the past, A.I.D.-supported sales of vehicles and parts have been the principal element in transport sales, but the continuing growth of the Turkish Airlines (THY) fleet has shifted the balance to aircraft.

There has been rapid market development for U.S.-supplied pulp and paper, steel scrap, insecticides, iron and steel primary forms, mechanical hand tools and textile machinery.

In 1972, up to an estimated $70 million of U.S. exports to Turkey will be covered by the diminishing U.S. assistance program. Fortunately for both U.S. exports and Turkish importers, applicable A.I.D. regulations have been simplified.

If the United States is to hold on to its $200 million market in Turkey in the face of declining U.S. assistance levels, U.S. commercial sales will have to move up from one third to two thirds of the total. This is a tall order. It is only in the last few years that U.S. commercial sales have become an important percentage of total sales.

Fortunately there are a number of factors which will assist the development of U.S. commercial sales. The rapid buildup of Turkish foreign exchange reserves will make it easier for U.S. suppliers to sell to Turkey. It will also be possible to expect immediate payment. The January revaluation of the Turkish lira in terms of dollars (TL15=$1 to TL14=$1), plus devaluation of the lira relative to currencies of principal U.S. competitors has the net effect of reducing the cost of U.S. goods (an estimated 14 percent as compared with German goods).

The $2.5 billion of post-war U.S. economic assistance has helped to create a market by permitting Turks to acquire an appreciation of the higher quality and performance of many U.S. products. Furthermore, prices on U.S. goods frequently decline when the A.I.D. umbrella is removed and the seller faces international competition. Commercial sales also enjoy greater flexibility with freedom from A.I.D. regulations, including those on use of U.S. shipping.

Eximbank credits will be an important factor in keeping U.S. suppliers in the market. Recent credits covered sales of aircraft, glass making machinery, heavy trucks, earth moving equipment and textile machinery. Reduction in the U.S. prime rates has lowered the rate for private bank participation in joint credits with Eximbank guarantee. The bank has demonstrated its determination to remain as flexible as possible on terms when competing with financing institutions of U.S. trade rivals in this credit conscious market.

U.S. returns to Fair

After a two-year absence, the United States is reentering the Izmir International Fair, August-September 1972. The special U.S. Izmir Fair quota of over a million dollars will afford Turkish importers an opportunity to bring in U.S. goods for which the dollar amount set aside in the regular import quota is insufficient.

With interests in tires, vehicles, and pharmaceuticals among others, the United States has the biggest investment stake in Turkey. During 1971 there was an actual decrease in U.S. investment. A pump manufacturing investment was abandoned when it was found that the market could not support the operation. A gear box manufacturing operation remained on the shelf while the government sought to resolve its policy on the future of the Turkish automotive industry. An American automotive company was seeking to reduce its investment interest. Caltex was preparing to sell to the Turkish national oil enterprise its $5 million investment in the Ipras Refinery. The only new U.S. investment was in a small sorghum feed project in the Cukurova.

Most observers feel that any substantial new foreign investment would require a fundamental change in Turkish public and private attitudes toward foreign participation. What is needed, these observers point out, is general acceptance of the premise that foreign investment is a scarce and vital development ingredient, and an agency with authority to attract, protect and defend the foreigners within the Turkish gates. With, among other things, low cost labor, a growing local market, and one foot in the European community, Turkey would be an attractive investment situation if the climate were right.

Upturn In Zaire's Business Prospects Should Result In Greater U.S. Sales

The economy of the Republic of Zaire is experiencing a period of readjustment that began a year and a half ago when world copper prices dropped. The slowdown in economic expansion that characterized 1971, however, seems to have run its course, and business should gradually pick up throughout the rest of this year.

Strict controls

The Government is, nevertheless, maintaining strict credit controls and has imposed measures to curb imports. Among the latter measures is a provision that all imports into Zaire after March 1, 1972 must be invoiced at prices 3 percent lower than those charged in 1971. However, since the major purpose of the measure is to put a stop to inflated invoicing through European middlemen, importers can apply for exonerations by furnishing evidence that their shipments are invoiced directly to their Zairian destination with no intermediate commission or markup. Exonerations have been granted to U.S. companies that have invested in Zaire under the provis-

ions of the country's Investment Code.

With increased copper production slated to begin in 1973, the pickup in business activity should gain momentum. The Zairian Government is proceeding with the second stage of the Inga hydroelectric complex, which will raise capacity from 300 to 1,500 megawatts. The Government has also decided to construct a 2,200-mile HVDC transmission line from Inga to the copper-producing province of Shaba (formerly Katanga Province).

Good opportunities

According to Myron Brockway Lawrence, Commercial Attache at the U.S. Embassy in Kinshasa, there will be especially good opportunities for U.S. investors and exporters in connection with this gradual upturn in the Zairian economy, owing to two main factors.

First, Zaire seriously wants to end its dependence on third country suppliers. The United States enjoys a special advantage in the country, largely as a result of its continuing policy toward Zaire since the country's independence. This fact, coupled with the recognized U.S. leadership in technology and the quality of American products, places U.S. suppliers in an excellent position to increase considerably their share of the market.

Second, the worldwide monetary changes have given the United States an advantage: the zaire (the country's unit of currency) is pegged to the dollar, whereas European currencies have risen in value. The dollar now has an 11 percent advantage over the Belgian franc, and the Zairian Government is actively urging its procurement officials to investigate U.S. sources of supply.

To encourage the economic upswing, and to continue and hasten progress in development, the Government of Zaire has designated two sectors—transport and agriculture—as priority areas.

Efforts in the transport sector are concentrated in a badly needed road rebuilding program, expansion and modernization of the port and inland waterway system based on the Zaire River and its tributaries, and improvement of airport facilities. The U.S. Agency for International Development is assisting waterways and road programs, and the U.S. Federal Aviation Administration (FAA) has a permanent team in Kinshasa to assist in management of civil aviation matters. These developments should provide good opportunities for the sale of U.S. equipment and machinery in these fields.

The Zairian Government has not yet announced a coordinated program for development of agriculture, but is determined to eliminate chronic food shortages in Kinshasa. Much of the foodstuffs consumed in the city by middle and upper income groups are now imported from Europe and South Africa. Since development of the agricultural sector has been given high priority, eventually there will be good opportunities for U.S. manufacturers of agricultural equipment and suppliers, and for U.S. investors seeking joint ventures in food production and processing.

Field will grow

Owing to the housing shortage in all Zairian urban centers, A.I.D. has a $10 million program to guarantee low-cost housing loans. An American firm is erecting U.S. Steel pre-engineered houses; another U.S. company and a German firm have signed contracts with the Zairian Government to build 2,000 low-cost dwellings. This field will grow, and U.S. manufacturers of construction machinery and materials should be seeing increased demand for their products.

Since President Mobutu's visit to the United States in 1970, American investments in Zaire have increased by over $50 million. The Goodyear tire plant recently began production, and since opening its doors last October the Intercontinental Hotel in Kinshasa has had between 80 and 90 per cent occupancy. Continental Grain is building a flour mill at Matadi while General Motors and Ford are building assembly plants for cars and trucks. An international consortium with U.S. participation is developing a large copper-mining and refining complex in Shaba Province that will begin production in 1976. The consortium's investment will ultimately reach $300-$400 million; the 1972 budget is $14 million. Other U.S. firms may undertake important investments in pineapple growing and canning, aluminum smelting, and dry-cell battery manufacture.

Important conditions

American firms should consider the Zairian market seriously, but should be forewarned of two important conditions. One is that efficient representatives are difficult to find in Zaire because the existing European-based firms have all the lines they can handle. Zairian trading companies are only beginning to emerge, and consequently lack experience. A solution to this problem is the establishment of direct factory representatives. If the market now appears too small, a group of manufactures in related lines might consider joint representation. Another solution that some firms have used successfully is a regional representative who makes frequent visits to Zaire. The other caveat concerns after-sales service. The American reputation in this field is not as good as that of European manufacturers; service is most important in Zaire, where independent facilities are lacking.

Dynamic, consistent efforts on the part of U.S. firms can produce positive results in Zaire. Those firms that have taken the plunge are beginning to reap the benefits —and profits—and their experience has done a great deal to grease the way for others.

Tunisia Eases Import Restrictions, Spurs Export-Industry Investment

Economic liberalization was the object of two recent steps by the Tunisian Government. Through liberalization, the Government hopes to encourage foreign private investment and develop Tunisia's export sector.

Tunisia's system of pervasive and complex controls on investment and imports have long been recognized by local and foreign observers as a major impediment to the country's economic development. Early in 1972 the Government relaxed procedures for many imports and extended important new benefits to investors in export industries.

Import liberalization measures were announced in the Tunisian Official Journal for February. The new regulations allow importers to bring in raw materials, semi-finished products and spare parts under an "import certificate" procedure, instead of being required to obtain an import license. This measure should greatly facilitate importation of these categories of products, as the import certificate can be obtained by the importer's bank within two or three days of the presentation of a pro forma invoice from the overseas supplier.

Certificates may cover a firm's total annual requirements of raw materials and spare parts. Obtaining an import license, on the other hand, may take as long as six months.

In another important move, the National Assembly on April 14 approved a law extending new benefits to investors in export-oriented industries. The law provides for a ten-year exemption from the corporate profit tax as well as exemption from customs and turnover taxes. Other provisions will allow these enterprises to operate in virtual freedom from exchange and import restrictions. The advantages of the new law are conferred automatically, upon approval of the investment by the Ministry of National Economy. More importantly, firms may retain earnings outside Tunisia, repatriating only the amounts required to cover local costs (such as salaries and utilities).

Considerable importance

These measures are of considerable importance to U.S. businesses with an interest in the Tunisian market or investors interested in producing for the European market. Tunisia signed an association agreement with the European Community in 1969. The agreement permits duty free entry of manufactured goods from Tunisia provided those goods have 50 percent or slightly higher components from Tunisia or the Common Market area. A number of U.S. firms are already considering establishing plants in Tunisia to take advantage of lower labor costs and proximity to the European market.

Detailed information on the new import regulations, as well as a translation of the investment law are available from the Africa Division, BIC-884, U.S. Department of Commerce, or from any of the Department's Field Offices. The Commerce Department is also prepared to advise interested businessmen on possible local agents, a necessity for any firm wanting to do business in Tunisia.

MAJOR SALE BY U.S. TO TUNISIA—*Godfrey S. Glaiber (right), sales engineer for Electro-Motive Products with General Motors Overseas Operations Division, receiving a U.S. Department of Commerce certificate for outstanding export initiative and resourcefulness from Arthur C. Rutzen, director of the Department's New York Business Office. An example of Glaiber's activity was his aggressive work in concluding a $2.2 million sale of GM diesel locomotives to Tunisia's national railway.*

World Trade Actions

Canada May Cut Tariffs On 'Third World' Products

Canada: The Government submitted legislation May 8 to the Parliament calling for a "General Preferential Tariff" that would provide for lower tariffs on most of the semi-manufactured and manufactured goods which Canada imports from developing countries. The enabling legislation will not come into force until it has been passed by Parliament and proclaimed by the Governor in Council. It will provide duty-free entry for imports from developing countries of a wide range of manufactured and semi-manufactured goods that at present are duty-free only when imported from British Commonwealth countries. It will also provide tariff reductions equal to at least one-third of the Most-Favored-Nation rate on most other manufactured and semi-manufactured goods originating in developing countries.

In addition, similar tariff reductions will be made on most of the industrial primary products that are not already free of duty on an MFN basis. Finally, tariff reductions of varying magnitude, in many cases complete removal of the tariff, will be made on a selected list of agricultural products of special interest to developing countries, including rum, spices and tropical oils.

The Government will reserve authority to decide what countries benefit from the legislation and when to withdraw the benefits in particular cases. This "safeguard" action would be used where imports cause or threaten market disruption or injury to Canadian producers. The authority may be used at the outset to exclude textile products subject to import control or negotiated export restraints.

Argentina: The Central Bank of Argentina's Circular RC 432 of May 5 notified importers that capital goods imports of value greater than ten thousand dollars f.o.b. must be subject to the conditions established by Point 2 of Circular RC 328 of June 15, 1967.

This means such imports cannot have an initial payment higher than 5 percent of the value at the time of the sales agreement, and no more than 10 percent of the value against presentation of shipping documents. The payment of the balance must be made in periodic quotas according to specified minimum periods based on the value of the imports.

The measure is taken to reduce foreign currency outflow by requiring importers to obtain foreign financing. Additional information is available from the Department of Commerce's American Republics Div., BIC-886, Washington, D.C. 20230.

Italy: After many years of study and deliberation, Italy is now scheduled to implement a major tax reform on January 1. It is wide ranging in character with major changes planned in both direct and indirect taxes. Simplification, harmonization with the fiscal systems of the other Common Market members and more efficient and equitable collection are among the primary objectives.

The most important changes are the introduction of a value-added tax to replace the current general transaction tax, the municipal consumption tax, and other indirect taxes, and the restructuring of direct taxes. Originally scheduled for implementation on July 1, the value added tax has now been delayed another six months, following approval by the European Economic Community's Council of Ministers.

The basic tax on value added will be 12 percent, reduced to 6 percent for basic necessities, including foods, pharmaceuticals, books, newspapers, and hotel charges. The increased rate of 18 percent will apply for luxury goods. All sales of goods and services, including retail purchases, will be subject to the tax, as will imports. Exports will be excluded.

There will be three direct taxes: a progressive personal income tax, a proportional corporate income tax, and a local tax which will be applied to capital gains on real property. A revision or abolition of certain minor taxes is also provided for in the basic tax law.

The Tax Reform Law, passed by Italy's Parliament in October and December 1971, sets forth overall principles and guidelines. Implementing decrees are still being drafted and also require legislative approval; information on these decrees will be published in *Commerce Today* as soon as available. A translation of the basic Tax Reform Law is available free of charge to firms in the United States, by writing to: Export Information & Services Div., BIC/OITP–976, U.S. Dept. of Commerce, Washington, D.C. 20230. Please request document DIB #72-04-219.

Colombia: Minimum wages have been increased for the first time since 1969. Wage increases ranged from 15 to 36 percent. The top minimum rate, 22 pesos daily, applies to manufacturing firms capitalized at 200,000 or more pesos (one peso equals approximately $0.047). Construction, commerce, transport and service industries pay at least 21 pesos daily. The top minimum for the rural sector is 15 pesos daily. Loan copies of Decree 577, in Spanish, are available from the U.S. Department of Commerce, BIC-886, Washington, D.C. 20230.

Venezuela: The Government has postponed enactment of its new tariff structure from July 1, 1972 to January 1973. The new tariff will be based on the Brussels Tariff Nomenclature and will employ an ad valorem system. Special restrictions will be applied to protect industries in which the ad valorem limit is not adequate.

Additional information may be obtained from the Venezuela Desk, BIC-886, of the Department of Commerce's Office of International Commercial Relations.

Pakistan: The Government has announced new import-export regulations along with its May 11 devaluation of the Rupee (Rs.) from Rs.4.76 per dollar to Rs.11 per dollar. Under the new import system, licensing and quotas will be abolished and all items not specifically banned will be freely importable. A system of incentives will be introduced to encourage importing under barter and aid arrangements. New customs duties will also be announced. Details will be published as received.

Indonesia: A recent decree provides new guidelines for establishing non-bank financial institutions in Indonesia. The decree applies to: (1) institutions specializing in long-term credits and equity participation, and owned by either the Indonesian Government, the Indonesian Government and foreign government institutions, or the International Finance Corp. and foreign private interests; (2) Indonesian and foreign private investment houses on a joint-venture basis, specializing in medium-term credits; and (3) wholly-owned Indonesian corporations providing medium-term credits.

Two U.S. branch banks in Indonesia have already applied on behalf of their associated investment firms or clients to establish joint-venture institutions to engage primarily in medium-term lending (one to five years). Under the new decree, these joint ventures must have a minimum paid-in capital of Rp. 300 million (about $700,000) supported by firm bank credit lines of at least Rp. 200 million (about $500,000). However, the decree does not specify any required percentage of domestic versus foreign capital.

The Government of Indonesia intends to license a maximum of six firms in this category, but will not do so on a "first-come, first-served" basis. Instead, it hopes to select from a number of blue-chip investment firms and underwriters that express interest. An unofficial translation of the text (No. KEP-38/MK/IV/1/1972, Jan. 18) may be obtained from the Far East Division, BIC-892, U.S. Department of Commerce, Washington, D.C. 20230.

Mexico: The sugar industry is aiming at increasing its capacity 50% to an annual production of 3.7 million metric tons. A National Sugar Commission (CONAZU) has been established to assist the National Sugar Development Bank (FINASA) in creating a master plan for the industry. The expansion is valued at about $304 million, lasting through 1976. This program offers significant opportunity for U.S. exports, especially sophisticated equipment ranging from turbine drives, special tandems, heavy drums and rollers, to components such as bearings.

For further details and a list of Mexican sugar mills contact: Mexico Desk, BIC-886, U.S. Department of Commerce, Washington, D.C. 20230.

Okinawa Reversion Affects Industrial Property Rights

Special measures adopted by Japan, effective May 15, implementing the reversion of Okinawa include those pertaining to patents, trademarks and other industrial property rights.

These measures, embodied in Articles 117-120 of the Japanese Special Measures Law, are intended to protect rights in Okinawa of legitimate prior users there of inventions, designs, trademarks and utility models that may be subject to later registrations acquired in Japan by others. The latter Japanese registrants also have protection in Okinawa for their Japanese registrations except against such legitimate prior users of the subject matter in Okinawa. Such legitimate prior users have an automatic non-exclusive license to continue using their inventions, designs, trademarks and models.

For further inquiries and texts regarding the new measures, write to the Foreign Business Practices Division, Office of International Investment, BIC-879, U.S. Department of Commerce, Washington, D.C. 20230.

Brazil Has New Regulations On Patents, Trademarks

The Brazilian Central Bank's Inspection and Registration Department (FIRCE) recently issued a "Communique" relative to remittances abroad under patent, trademark and technology transfer agreements.

Brazil's new Industrial Property Code requires such agreements to be registered with the Ministry of Industry and Commerce's National Institute of Industrial Property (INPI) (see *Commerce Today*, March 20, Page 43). Such agreements had to be registered with the Central Bank, under earlier laws relating to foreign capital, in order to be considered for payments abroad.

The new Central Bank "Communique" now also requires proof from the parties that their agreements have been registered with INPI. Agreements already registered at the Central Bank, without specific expiration dates, will be valid only up to Aug. 2. Such parties, however, can request immediate renewal of their Central Bank Registration Certificates if they submit proof of registration of their agreements at the INPI.

International Business Reports

The Role of International Companies in Latin American Integration: Autos and Petrochemicals. By Jack Behrman. Committee for Economic Development. 185pp. $4.50.

This study analyzes the possibilities and problems of complementation agreements in the automotive and petrochemical sectors. The author deals with the ways in which international companies might play an effective role in the economic development of Latin America, reporting that an important problem arises from the fact that as major firms become more powerful their influence might become greater than would be acceptable to some governments. He discusses the role of intergovernmental surveillance and formation of ties with national firms.

Write: Committee for Economic Development, 477 Madison Ave., New York, N.Y. 10022.

The Central American Common Market: Economic Policies, Economic Growth, and Choices for the Future. By Donald H. McLelland. 258pp. $15.

Assesses the first five years of the Central American Common Market, finding the overall effect on GNP to be 1 percent out of a yearly 7 percent growth. The author reviews policy choices for the future, recommending less emphasis on import substitution and more on commercial-industrial policies that are labor-intensive.

Write: Praeger Publishers, 111 Fourth Ave., New York, N.Y. 10003.

Pakistan's Trade With Eastern Bloc Countries. By Michael Kidron. 142pp. $12.50.

Examines the volume, growth, structure, and conditions of trade between Pakistan and the Soviet Union, Eastern Europe and China, concluding that this trade will decline in the 1970s. Appraises the statistical record, quantifies the extent of barter trading, and assesses the effectiveness of barter agreements as instruments of trade promotion. Eastern bloc trade prices are compared with international prices.

Write: Praeger Publishers, 111 Fourth Ave., New York, N.Y. 10003.

Newsmedia Guide International. Published by Directories International. $27.50.

This directory, designed to help advertising and public relations people identify and evaluate newspapers and news magazines in 88 countries, lists papers and magazines with national or near-national circulation and influence. Information about the individual publications includes title, address, name of advertising manager, column inch or line rates (in dollars as well as local currency), circulation, and mechanical requirements. Circulation audit bureaus, advertising taxes, population, and major national imports are also covered.

Write: Directories International, Inc., 1718 Sherman Ave., Evanston, Ill. 60201.

International Finance for Multinational Business. Edited by Lee C. Nehrt. Published by Intext Educational Publishers. 804pp. $11.

Discusses the financial management of firms involved in international business. Forty-seven articles, most new to this edition, discuss theory, institutions and environment. The book is designed for courses in international financial management and business.

Write: Box 30, Intext/Chandler, Scranton, Pa. 18515.

Textiles in Indonesia: Problems of Import Substitution. By Ingrid Palmer. 339pp. $19.50.

An examination of the growth and structure of the Indonesian textile industry in 1950-70, with background data since 1900. Reviews government policies such as investment incentives, intervention, and tariff protection, as well as such factors as chronic inflation, an erratic supply and distribution of imported raw materials, the under-utilization of equipment, and the industry's cost structure.

Write: Praeger Publishers, 111 Fourth Ave., New York, N.Y. 10003.

Calendar For World Traders

June 13 — Phoenix — U.S.-Japan Trade Symposium, Camelback Inn.

June 19-20—New York—AMA briefing on making maximum use of DISC, Waldorf-Astoria.

June 20—New York—FCIB Hardware-Automotive & Allied Trade Group luncheon meeting, Advertising Club, 12:30 p.m.

June 21—Chicago—Chicago Midwest Credit Management Assn. meeting, Bismarck Hotel.

June 22—New York—FCIB Drug, Chemical & Food Export Club luncheon meeting, Advertising Club, 12:15 p.m.

June 27—Ann Arbor—Seminar on opportunities and pitfalls in the EEC, Campus Inn, 9 a.m.-5 p.m. Sponsor: Institute for International Commerce, U. of Michigan.

June 28—Ann Arbor—Seminar on market for auto parts in EEC, Campus Inn, 9 a.m.-5 p.m. Sponsor: Institute for International Commerce, U. of Michigan.

June 28—New York — International Executives Assn. luncheon, Regency Hotel, 12:30 p.m.

July 18-19—Chicago—Briefing on making maximum use of DISC, AMA Management Center.

Worldwide Business Services

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors overseas. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine. The section that follows presents details about U.S.-sponsored overseas exhibits, licensing and joint venture proposals, opportunities to sell to foreign firms and government agencies and appoint agents, details on major construction and expansion projects, and notices of U.S. visits by foreign buyers.

U.S. Promotions Overseas

MEXICO. Food Processing Machinery and Equipment Exhibition. Imports of food processing equipment into Mexico climbed to $10.5 million in 1970, and are expected to reach $15 million by 1975. Expansion and modernization of this industry will present attractive opportunities to U.S. companies, which captured two thirds of all Mexican imports during the 1966-70 period. This is the most important market in Latin America for American food processing equipment manufacturers. Call Bob Vigneault, 202-967-4311. Mexico City Trade Center, Sept. 4-8.

JAPAN. U.S. Packaging Machinery Exhibition, TOKYO PACK '72. In 1970 U.S. exports to Japan of packaging equipment, including handling and conveying machines, came to more than $10.5 million. Changing retail distribution patterns have created new demands for sophisticated packaging machinery. The acute labor shortage has accentuated the need for greater efficiency in production techniques where packaging is an important factor. TOKYO PACK is unique in Asia as an international show-place for packaging equipment. Call Robert Levine, 202-967-4705. TOKYO PACK '72, Sept. 6-12.

WEST GERMANY. Air Conditioning and Refrigeration Equipment. The present yearly turnover for air conditioning equipment in Germany is estimated at over $200 million and is growing at about 20 percent per year. The commercial refrigeration market in Germany is about the same size and is estimated to be growing at 7 percent to 8 percent per year. With the realignment of currencies and the cut in German bank rates, there are signs that the German economic boom will resume by mid-1972. The accompanying increase in new construction will lead to increasing sales of air conditioning equipment. Rising per capita income in Germany is stimulating sales of prepared frozen foods and refrigerated dairy products, adding to a steady growth in demand for refrigeration systems. Call A. J. Beiring, 202-967-3838. Frankfurt Trade Center, Sept. 11-15.

FRANCE. Medical Diagnostic and Monitoring Equipment. Under the French Government's Five-Year Development Plan, new hospital construction and modernization of existing facilities will require purchase of considerable quantities of the latest diagnostic and monitoring equipment. The medical electronics market in France is projected at about $120 million by 1975. Call Don Johnson, 202-967-2795. Paris Trade Center, Sept. 18-22.

JAPAN. Vacuum and Cryogenics Equipment Exhibition. Increasing demand for U.S. high vacuum and cryogenics equipment and technology in the medical, electronics, biological and food preservation industries is predicted for Japan. Moreover, the Japanese Government is putting large sums of money and effort into aerospace and oceanography, industries which utilize high vacuum and cryogenics equipment. Market research reveals a continuing need for such equipment. Call Bill Dawson, 202-967-4919. Tokyo Trade Center, Sept. 18-22.

UNITED KINGDOM. Materials for the Electronics Industry. The final Kennedy Round tariff reductions and Britain's eventual entry into the Common Market are causing significant structural changes within the electronics industry. To remain competitive in domestic and foreign markets, electronics firms are upgrading their R&D programs and actively seeking new production techniques, materials, and applications. Consumption of electronics materials reached an estimated $160 million in 1970 and is projected to increase substantially in the next four years. Call George Kemp, 202-967-3088. London Trade Center, Sept. 18-22.

NORTHERN EUROPE. Data Processing Equipment. Three exhibitions will be staged between September 1972 and February 1973 to acquaint Scandinavian, United Kingdom and West German end-users with the latest equipment, accessories and software available in the United States. U.S. exports of EDP equipment to these three areas in 1971 totaled $382 million. Growth rates between 1969 and 1971 are dramatic: To Scandinavia—up 65 percent; to the United Kingdom—up 40 percent; to West Germany—up 66 percent. The first show, EDP-IV, in Stockholm, will involve equipment and software for all applications—business, process control, scientific research. The U.S. exhibition at COMPUTER '72 will emphasize business applications. The specialized Minicomputers show in Frankfurt also will cover the entire spectrum of EDP uses. Call C. Edward Walls, 202-967-4256. Stockholm Trade Center, Sept. 18-23 and Olympia, London, Dec. 4-8, 1972. Frankfurt Trade Center, Feb. 12-16, 1973.

ITALY. Plastics & Plastic Processing Equipment. Italy, the second largest plastic producer in Europe and one of the world's fastest growing consumers of plastics, is hosting the world's second largest plastics exhibition, a key vehicle for entrance into the entire European plastics market. Italian consumption of plastics has been growing at an average annual rate of 20 percent for the last five years; this is expected to continue. Call Robert Wallace, 202-967-4508. U.S. Commercial Exhibition, PLAST '72. Milan, Oct. 8-15.

UNITED KINGDOM. U.S. Packaging Exhibition, PAKEX 72. British consumption of packaging machinery and equipment was $81.5 million in 1970; by 1975, it will be an estimated $112 million. British imports of packaging machinery in 1970 totaled $31.9 million, of which $8.3 million came from the United States. British demands will increase rapidly for sophisticated, high-speed machinery. U.S. equipment is well regarded. Call Bill Gaines, 202-967-4073. PAKEX 72, Oct. 9-13.

WEST GERMANY. Analytical Instruments. The outlook for the German chemical industry is for 70 percent growth in production by 1975. The $35 million market for analytical instruments has doubled in volume since 1968. Expenditures for R&D continue to keep pace with industry growth. Outlays by the chemical industry currently account for an estimated 30 percent of R&D expenditures by all German industry. Call John R. Crown, 202-967-4421. Frankfurt Trade Center, Oct. 9-13.

ITALY. Metals, Metal Processing and Production, and Technical Metallurgy Equipment. Italy's 1972 market for this equipment is valued at $273 million and domestic producers are expected to satisfy less than half. Consequently, technologically advanced and other locally unavailable equipment and supplies will be imported. U.S. high technology equipment and materials are considered by most Italian experts to be 5-7 years ahead of most available products and are therefore in high demand. Call Gus Duda, 202-967-2434. Milan Trade Center, Oct. 10-14.

EASTERN EUROPE. Czechoslovakia, Brno International Fair—Romania, Bucharest International Fair. Czechoslovakia and Romania have both undertaken Five-Year Plans (1971-75) which concentrate on the modernization and ex-

pansion of their industrial economies. To achieve these modernization programs both countries are greatly interested in purchasing instruments and instrumentation equipment of the highest quality in the most advanced technology. U.S. participation in the Brno and Bucharest events will focus on scientific instruments and electronic testing equipment. Exhibiting at these events will provide an opportunity for U.S. firms to take advantage of these markets. Call James Robb, 202-967-4161. Brno International Fair, Sept. 8-17. Bucharest International Fair, Oct. 15-24.

ARGENTINA. Instrumento Expo-72. This will be an instrument and systems exhibition. Featured equipment will include industrial process, analytical, and electro measuring instrumentation. Argentina's imports of instruments and systems reached a record $19 million during 1971, with U.S. suppliers accounting for some 50 percent. By 1975, import demand is expected to double, as local producers will still be unable to produce sophisticated instrumentation required by Argentina's rapidly growing process industries; total instrumentation sales, including imports, should surpass $46 million by 1975. Call Franc Manzolillo, 202-967-3752. U.S. Regional Trade Center, Buenos Aires, Oct. 16-20.

MEXICO. Graphic Arts Machinery and Equipment Exhibition. The printing and graphic arts industry in Mexico is upgrading its capabilities and looks to the United States as the primary source for new equipment. U.S. sales were $8.8 million in 1970, and rose 10 percent in 1971. A wide range of equipment will be featured at this event in the most important Latin American market. Call James L. Blow, 202-967-4311. Mexico City Trade Center, Oct. 16-20.

SWITZERLAND. Nuclear Equipment. The application of nuclear technology for industrial, medical and scientific purposes is one of Switzerland's fastest growing and most promising fields. As commercial applications of nuclear technology become more widespread, the market for nuclear equipment and instruments will expand. Sales of nuclear equipment are rising as the industrialized countries of Western Europe expand their activities in this field. Call John Wolf, 202-967-4974. U.S. Commercial Exhibition, NUCLEX '72, Basel, Oct. 16-21.

TAIWAN. Industrial, Business and Scientific Equipment Exhibition. This will be the third exhibition of its type to be held in Taiwan. At the Exhibition in 1970, 50 U.S. manufacturers sold $516,515 worth of equipment during the show and forecast over $12 million in sales within two years from sales contacts made at the exhibition. The United States is Taiwan's second largest supplier with over 30 percent of its total U.S. $1.8 billion import market. Call Don Ryan, 202-967-3137. U.S. Commercial Exhibition, TAIPEI '72, Taipei, Oct. 16-21.

VENEZUELA. Advanced Business Machinery. Venezuela, with a $10 billion GNP and a 6 percent annual growth rate, is one of the leading Latin American markets for U.S. equipment. Demand for business machines is high. The U.S. share of the market for EDP and other business machines is 35 percent and is expected to keep pace with market growth of about 12 percent annually. The Venezuelan liquidity position is good. Call Porter Clary, 202-967-4652. U.S. Solo Exhibition, Caracas, Oct. 24-28.

AUSTRALIA. Electronic Components Measuring and Test Equipment. Electronics is one of the prime growth markets in Australia, averaging 10 percent growth per year. The import market is currently $100 million annually. The recent announcement that color TV is to be introduced in 1975 offers U.S. manufacturers of broadcasting equipment and test and measuring equipment additional sales opportunities. Call John Klingelhut, 202-967-5751. Sydney Trade Center, Nov. 6-10.

SCANDINAVIA. Metal Parts Production Equipment. Metalworking is Sweden's largest industry. This manufacturing group has grown faster than any other in Sweden. Expanded U.S. exports are possible, because Sweden's metalworking industries are continuing efforts to achieve greater efficiency, supported by current investment in new metal parts production equipment estimated at $93 million. Related Swedish import duties average only 5 percent ad valorem; the 7.5 percent revaluation of the krona vis-a-vis the dollar will further improve the competitiveness of such American goods. These factors should boost the U.S. share of this $60 million import market, to which American equipment manufacturers supplied goods worth $10 million in 1971. Call Robert Dormitzer, 202-967-3848. Stockholm Trade Center, Nov. 6-11.

UNITED KINGDOM. Electro-Optics & Laser Equipment. Opportunities are increasing for U.S. suppliers. Equipment demands for R&D applications are growing, but even bigger gains, and the best opportunities for U.S. companies during the next several years, are appearing in industrial sectors. Market size estimates range as high as $10 million by the end of 1972, with growth estimated at 15-20 percent or more. Call your nearest U.S. Department of Commerce Field Office. London Trade Center, Nov. 13-17.

JAPAN. Industrial Assembly Equipment and Supplies. Japan's "recession" is bottoming out and business activity gradually picking up. The ceiling on loans for import financing was raised on April 1 from 20 percent to 50 percent, in effect making it easier for Japanese businessmen to import goods from abroad, including the U.S. These developments, plus a favorable market research report on industrial assembly equipment, are encouraging to U.S. exporters. Call Maurice Shea, 202-967-4511. Tokyo Trade Center, Nov. 13-18.

WEST GERMANY. Information and Document Storage and Retrieval Equipment. The market for this equipment in Germany is growing fast. From 24 percent in 1968 the growth rate rose to 42 percent in 1969, 50 percent in 1970, and an estimated 60 percent in 1971. Currently, domestic producers supply only 30 percent of German demand while the U.S. supplies 60 percent. Since 1965 it has been legal in Germany to use microfilm as a replacement for almost all original documents. This exhibition is being held in conjunction with the European Microfilm Congress. Call Lee W. Swift Jr., 202-967-4461. Mainz, Nov. 14-16.

ITALY. Pollution Control Equipment. The Italian Government, in its most recent Five-Year Plan (1971-75), has allocated $3.5 billion for pollution abatement. For 1972 Italy's water and air pollution control equipment market is valued at $300 million. Additionally, strict legal actions during 1971 along with a growing public outcry against mounting pollution has created a strong buying interest among Italian municipal and industrial decision makers. Research indicates that pollution control equipment has not been exhibited sufficiently in the country. Consequently, the U.S. Trade Center, located on the Milan International Fairgrounds, will host 30-35 U.S. firms in conjunction with Italy's largest antipollution exhibition, ANTINQUINIMENTO '72. Contact Don Johnson, 202-967-2795. Milan Trade Center, Nov. 15-19.

WEST GERMANY. Electronica '72. The U.S. Department of Commerce exhibit in the biggest electronics show in the world will feature production equipment for the electronics industry, measurement and test equipment, and electronic components. Indicators point to a 10 percent or better annual rate of increase in the European electronics market through the rest of the seventies. In West Germany, the largest of the European electronics markets, forecasts are upward for 1973. ELECTRONICA '72 gives U.S. electronics manufacturers an opportunity to exhibit for this market as it starts to

Sales opportunities in 12 U.S. commercial exhibitions, trade fairs and solo exhibitions and 18 shows at the nine U.S. Trade Centers are being offered to present and potential U.S. exporters between now and February 1973.

Each Trade Center exhibition is limited to one particular line of products and centers are located in Buenos Aires, London, Milan, Mexico City, Frankfurt, Stockholm, Sydney, Tokyo and Paris. For further information on the Trade Center shows described or for more facts on U.S. exhibitions, write: *Foreign Export Promotion, BIC-936, U.S. Department of Commerce, Washington, D.C. 20230.*

Trade missions are groups of U.S. businessmen organized to travel abroad promoting the export of U.S. goods and services made by their particular industry. **Write:** *Trade Missions Div., BIC-926, U.S. Department of Commerce, Washington, D.C. 20230.*

expand again. Call Don Schmadel, 202-967-4601. Munich, Nov. 23-29.

WEST GERMANY. Pumps, Valves and Compressors. Demand by German end-users of pumps, valves and compressors has been growing more rapidly than the ability of domestic producers to meet it. By 1975, due to an accelerated rate of investment, German buyers are expected to spend more than $1.15 billion annually, almost double the 1967 level, for such equipment. The United States, with a 23 percent market share, is the leading foreign supplier of pumps, valves and compressors to the German market. The growing order backlog, plus the effect of the currency revaluations, should give U.S. suppliers new and greater sales opportunities in this expanding market. Call your local U.S. Department of Commerce Field Office. Frankfurt Trade Center, Dec. 4-7.

SCANDINAVIA. Pollution Control Equipment. Growing environmental concern in the Scandinavian countries has prompted the enactment, or consideration, of comprehensive legislation to combat increasing air, water, and solid waste pollution problems. Sweden alone plans to invest nearly $1.2 billion for plants, systems, and equipment for industrial and municipal pollution control in the 1971-75 period. Although domestic suppliers account for a sizable share of the Nordic market, U.S. equipment and control techniques are highly regarded and price is only secondary when it comes to solving serious pollution problems. Potential customers in the region are most interested in solid waste treatment and recycling equipment, water treatment apparatus, and a wide range of control, test and monitoring instrumentation. Call H. L. Kirchschlager, 202-967-4543. Stockholm Trade Center, Dec. 4-9.

WEST GERMANY. Interpack '73. This is the largest packaging exhibition in the world. Following Interpack '69, companies exhibiting in the U.S. area reported confirmed sales of nearly $6 million. Overall, that event drew 112,000 visitors to the products and equipment exhibited by 864 companies. This represents an outstanding forum for European presentation and sale by U.S. companies marketing packaging machinery products. Call William S. Gaines, 202-967-4073. Duesseldorf, May 10-16, 1973.

Danes Ready For Advanced Pollution Control Items

A spokesman for the Environmental Technology Working Group in Denmark confirmed to the U.S. Embassy that Denmark should be a good market for all types of advanced pollution control equipment, including recording sulphur dioxide analyzers, apparatus for measuring the concentration of carbon monoxide in the air, condensation nuclei counters, X-ray diffraction apparatus for determining the presence of crystalline particles in the atmosphere, and volumetric analysis instruments.

Information regarding specifics on this trade opportunity is available from the Business, Photographic and Scientific Equipment Division, BDC-708, Room 1128, U.S. Department of Commerce, Washington, D.C. 20230, ★ (202-967-2939).

Licensing, Investment Abroad

The specific business opportunities on these and following pages have been developed for U.S. traders by international specialists in the Department of Commerce and Foreign Service Officers in U.S. Embassies and Consulates around the world.

Licensing and investment proposals from foreign firms are listed in the columns below. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to specific proposals.

WTD indicates that a World Trade Directory Report containing financial and background information on the foreign firm is available for $2 from the Department of Commerce, BIC-976, Washington, D.C. 20230, or from any Commerce Field Office.

MEXICO—The following information is for interested U.S. firms **wishing to bid on Mexican Government contracts:** A U.S. company with legally established representation in Mexico must write, or send its representative, to the government department that is calling for registration of bidders. If the government department is interested in the services of the U.S. company, it will furnish the necessary forms to register. If the government department is not interested in an inquiry received by mail, it will not respond. The government department compiles a registry of companies with a legal presence in Mexico, foreign and Mexican. From the registry it selects companies to bid for contracts on specific projects. To enter into contracts with Mexican government departments, a U.S. firm must obtain prior permission from the Ministry of Foreign Affairs (Secretaria De Relaciones Exteriores), Av. Nonoalco No. 1, Mexico 3, D.F. Form F-CEL-CONT.2°ART.33.

Upon being awarded a contract, the firm or its agent must then register with the Secretaria del Patrimonio Nacional, Mexico, D.F. U.S. contractors must comply with all of the laws applicable to establishing a business in Mexico, as outlined in *OBR-70-41*. They also need authorization from Secretaria de Industria y Comercio, Av. Cuauhtemoc No. 80, Mexico 7, D.C., which will require the U.S. firm established in Mexico to furnish a notarized copy of documents of incorporation which shall not conflict with the provisions for public law prescribed by Mexican legislation. A Mexican Consular officer will certify that the foreign corporation has been legally incorporated according to the laws of the home state. The company must also be inscribed in the Public Property Register, which requires exhibition of the latest balance sheet and inventory, together with the Consular certification referred to above. It must certify that an agency or branch office has been physically set up on Mexican soil.

CANADA—3622, 3821—Producer of fluid power machinery and electrical control panels seeks licenses for **hydraulic and pneumatic control systems and industrial electric and electronic controls and accessories.** Particularly interested in negotiating with U.S. firms engaged in oil prospecting and production. Firm markets industrial power tools, hydraulic and pneumatic components, power transmission products, electric controls, and pumps. Industrial Systems Ltd., P.O. Box 602, Dartmouth, Nova Scotia. Attn: A. W. Baxter, president. WTD. P-72285.

FRANCE—3433—Firm seeks license to manufacture **solid waste incinerator** of all capacities. Established in 1684, manufactures railroad, household cooking equipment, chemical industry machinery, heating systems and boilers. Annual sales $64 million; employs 4,500. Gilbert de Dietrich, president & general manager, De Dietrich & Cie, 67-Niederbronn-les-Bains, France. WTD. P-72286.

FRANCE—3500—Licenses to manufacture parts and accessories for **lift trucks; diesel engines (over 150 h.p.); gripping devices; compressors; and liquid propane gas equipment.** Firm specializes in rebuilding of motors and general mechanics; has six subsidiaries, two affiliated companies. Will handle and distribute finished products. Mrs. M. Bardou, mgr., Demolin Sarl, 83 rue La Fontaine, Paris 16. WTD. P-72281.

GERMANY—2399—Firm seeks licenses to manufacture **automobile safety belts.** Founded in 1969, firm employs 120 and has yearly sales around $1 million. Kangola-Teka Sicherheitsgurt GmbH, 31-33 Kurfuerstenstrasse, 504 Bruehl, West Germany. WTD. P-72284.

GERMANY — 3297 — Manufacturer and distributor experienced in the industry seeks licenses for **concrete and brick refractory material and linings for ovens and chimney.** Employs 500. Karrena-Feuerungsbau GmbH, 20 Ruedigerstr., 4 Duesseldorf. WTD. P-72295.

SPAIN—2844—Small manufacturer of **biological hair products** for sale. Will consider merger. Owner seeks to retire. Progressive firm, reports net annual profits of around $50,000. E. C. Pollard, Laboratorio Pollard, Alberto Alcocer 14, Madrid 16, Spain. WTD. P-72280.

NETHERLANDS—3530— Manufacturer of **cranes, related heavy equipment** seeks

license or joint venture to produce similar products. Firm employs 200, reports annual sales of approximately $5 million. Mr. A. van Dijk, N.V. Machinefabriek FIGEE, 162 Straatweg, Rotterdam. WTD. P-72269.

AUSTRIA—3540—Seeks license for **machine tools for processing metals and plastic materials.** Also would consider representing U.S. manufacturers whose products require local assembling, servicing and maintenance; or production of custom-made tools, machines and parts which are unsuitable for mass production. Operates modern production facilities including foundry, metal working and machine workships, engineering, laboratory and quality control departments. Hans Buchberger, E. Eisenbeiss Soehne, P.O. Box 18, A-4470 Enns, Austria. WTD. P-72261.

FRANCE—3551—Major company seeks to expand its activities in field of **industrial drying and packaging machinery and systems through licensing.** Interested in food processing and preservation; cereal preservation through refrigeration; vacuum or ultrasonic drying equipment for granulated products; and high pressure sterilization for pharmaceuticals and other products. Seeks advanced techniques and new drying processes in above areas. Firm is well known for the production of continuous drying equipment through ventilation. Also makes metal products, river boats, cranes, materials handling equipment and other industrial machinery. Has subsidiaries in Europe and Africa. M. Ruyssen, COMESSA, 18 rue de la Glaciere, 67-Schiltingheim, France. WTD. P-72253.

NORWAY—3662, 3831—Established producer of electronic equipment for civilian and military use seeks licenses to manufacture **products related to its own FDM transmission and sonar equipment, also products complementary to parent firm's optical and geodetical instruments.** AGA A/S, P.O. Box 51, Manglerud, Oslo 6. Attn.: A. Smidt Olsen, Managing Director. WTD. P-72266.

FRANCE—3560—Licenses sought by firm experienced in the industry to produce **bushings, shafts, cranks, pinions, filters for oil or chemical (magnetic separation) and electrolytic treatment.** The company manufactures bushings, valve seats and centrifugal filters, and also performs electrolytic surface treatment. Traitement Scientifique de l'Aluminium (TSA), 8-10 rue Petit, 92-Clichy, France. Attn.: Jacques Bardou. WTD. P-72248.

FRANCE—3569—Seeks license or subcontract arrangement to manufacture **waste compactors.** Presently distributes containers, compactors and incinerators. Gerard Genet, manager, Locaner Sarl, Domaine des Roches, route de Malesherbes, 77-Buthirs, France. WTD. P-72267.

FRANCE—3634—Major producer of electric central heating generators and water heaters seeks license to manufacture **integrated electric heating systems with ventilation and automatic draught controls.** Firm employs 600, has annual sales of $20 million. Etablissements Leblanc (ELM), 123 Blvd. Diderot, 93-Drancy, France. Attn: Ph. Dugrenier, export manager. P-72246.

SWITZERLAND—3079—Seeks licenses for **plastic items using rotational molding process.** Products of interest are **tanks, planters, pools, containers, sporting goods, and playground equipment.** Prepared to buy manufacturing rights and necessary equipment. Paul Siebenhaar, president, Siebenhaar AG, Grossacker, 8634 Hombrechtikon, Switzerland. WTD. P-72249.

SWITZERLAND — 3564 — Manufacturing rights for **self-cleaning air filters** for use in plants and mills which generate large amounts of dust. Firm currently produces special equipment for food, chemical industry. Has facilities in Switzerland and Germany; markets throughout Europe. Dr. Hermann Gericke, president, Gericke & Co., Stationsstrasse 67, 8105 Regensdorf, Switzerland. WTD. P-72268.

SWITZERLAND — 3569 — Licenses to **manufacture solid waste and garbage collection equipment, including containers, shredding and compressing machines; equipment for use in waste and garbage treatment plants such as sorting, handling machinery and conveyors; and plants for recycling of waste, reuse of metal parts and plastics and production of fertilizer and building materials from waste.** Firm is producer of industrial machinery and equipment. Has recently established new division in waste treatment field. Willy E. Meier, Geilinger Stahlbau AG, Schutzenmattstr. 8180 Bulach, Switzerland. WTD. P-72254.

SWITZERLAND—3579—Seeks licenses for **office machines and equipment.** Items of particular interest are **letter and sheet folding and envelope stuffing systems, printers and embossers for plastic cards, and hot sealing presses for plastic cards; addressing machines, (except metal plate systems), label gluers, and laminating machines.** Firm manufactures metal plate addressing machines, machine tools and precision mechanical instruments as a sub-contractor for large chemical company. Would also consider sub-contractor arrangements. A. Jacob, manager, Sadrag, 4633 Laeufelfingen, Switzerland. WTD. P-72275.

SWITZERLAND—3548, 3634—Producer and distributor of household electrical appliances seeks licenses to manufacture **power tools and advanced and novel electric household appliances, 220 volts, 50 cycles.** The firm is also interested in representing and assembling such products of U.S. manufacture. Established in 1926, the company reports annual sales around $6 million, and employs 500 including 25 salesmen. Jura Electric Appliances, L. Henzirohs AG, 4626 Niederbuchsiten, Switzerland, Attn: Ivo Gut-George. WTD. P-72263.

UNITED KINGDOM—3564—Licenses to manufacture such **air conditioner components as humidifiers, heat exchangers, air filters, fans and control equipment** sought by producer of packaged air conditioning units. Firm also makes temperature and humidity controllers and power distribution cabinets. Company has annual sales around $3 million, employs 120 and has extensive experience. Eaton-Williams Products Ltd., Station Rd., Edenbridge, Kent, England. Attn: L. Armer. WTD. P-72271.

UNITED KINGDOM—3569—Firm seeks licenses for **air and water pollution equipment, compaction and destruction systems for waste of all kinds. Also interested in material handling, concrete movement and distribution equipment.** Presently manufactures dust and fume control equipment, building products, galvanized tanks and cylinders. C. H. R. Marriott, director, Harvey Fabrication Ltd., Woolwich Rd., London SE7 7RJ, England. WTD. P-72259.

GERMANY—3542—Firm seeks licenses for **sheet metal appliances and small industrial machinery.** Presently manufactures stamped metal parts. Also maintains a foundry and a tool making shop. Walter Rossbach KG, 3560 Biendenkofp, Industriestr. 1-3, Germany. WTD. P-72282.

GERMANY — 3589 — Engineering firm specializing in the planning and construction of **waste water treatment installations** seeks licenses for U.S. products in this field. Also willing to exchange licenses and know-how. Deutsche Abwasser-Reinigungsges.m.b.H. (OMS), 6200 Wiesbaden, Adolfsallee 27/29, Germany. WTD. P-72283.

GERMANY—3720 — Importer-exporter, wholesaler and agent seeks licenses to produce such **aircraft components as antennas, filter caps and fuel strainers, frequency and volt meters, and electronic and electro-mechanical devices.** Electro-Metall-Export GmbH, 29 Jaegerhofstr., 4 Duesseldorf, Germany. WTD. P-72294.

GUATEMALA—3940 — Small manufacturer of **plastic toys,** primarily dolls, seeks to add new lines of high quality toys through licensing arrangement. Prepared to purchase necessary machinery. Exports 65% of production to Central American Common Market countries. Sales last year about $165,000. Juan Jose Serra, president, Munecas Florido y Cia, 4a. Avenida 11-50, Zona 1, Guatemala City. WTD. P-72300.

INDIA—2821—Firm seeks technical assistance and equipment to **manufacture cellophane.** Plans to establish plant with annual capacity of 3,000 metric tons. Firm presently produces viscose rayon yarn, anhydrous sodium sulphate and sulfuric acid. J. K. Merchant, development officer, The Baroda Rayon Corp. Ltd., Great Western Bldg., 130-132 Apollo St., Fort, Bombay 1. WTD. P-72298.

INDIA — 3622 — Technical know-how sought by industrial controls producer to manufacture such new types of controls as **electromagnetic relays, pneumatic time relays, synchronous motor-operated timers, cam timers, time switches, coin-operated timers, and d.c. motor speed controls.** Firm prepared to import needed equipment. Initial production estimated at $665,000 annually, 30% for export. OPIC insurance available for sale of technical know-how. Hakatronics Private Ltd., Bhor Industries Bldg., Sussex Rd., Bombay 27. WTD. P-72301.

JAMAICA—2834—Firm wants to manufacture newly-developed **cosmetic and pharmaceutical products** under license. Over-the-counter pharmaceuticals of special interest. Currently produces cosmetics, ethical and proprietary pharmaceuticals for Jamaica and Caribbean Free Trade Area. Good marketing facilities. Vernon da Silva, marketing manager, Levy Brs. Ltd., 44 Port Royal St., Kingston. WTD. P-72289.

KOREA—4712—Major freight forwarder seeks U.S. partner for proposed **general agency agreement in international freight forwarding.** Founded in 1963, firm has 135 branch offices in Korea. Korea Express Co. Ltd. (KEC), 58-12 Sosomun-dong, Sodaemun-ku, Seoul. Attn: Chun-Shik Chung, gen. mgr., International and Public Freight Div. WTD. P-72297.

NEW ZEALAND—3581—License wanted to manufacture range of **vending machines**. Seeks technical know-how, use of patent or trademark. Firm presently produces canned beverage vending machines, milk dispensers and coolers. J. B. Constable, managing director, Constable Engineering Ltd., View Road, P.O. Box 579, Rotorua. WTD. P-72304.

SWITZERLAND — 2640 — Well-known producer of office supplies seeks licenses for **office supplies involving the use of cardboard, paper and plastics, particularly filing systems for punched cards, magnetic tapes, and computer accessories.** Offers licenses for its novel, space-saving filing system. Founded in 1852, company employs 300 in well-equipped plastics working plant. Viktor Bolt, director, Neher AG, Schwarztorstrasse 87, 3000 Bern. WTD. P-72290.

SWITZERLAND—2819—Firm interested in purchasing and eventually manufacturing under license **activated carbon** for filtering purposes. Use mainly in water treatment plants. Also seeks to obtain processes and know-how for regeneration of used activated carbon. Firm presently produces industrial chemicals, fertilizers; has strong financial standing. Jacques Hepp, director, Chemische Fabrik Uetikon, 8707 Uetikon a.See, Switzerland. WTD. P-72288.

SWITZERLAND — 3622 — Producer of process controls seeks manufacturing licenses and technical collaboration for production of **electronic output devices of pneumatic controls (measured data to be transmitted to centralized control panel), and electronic output devices of pneumatic transmitters to measure pressures and temperatures.** Firm willing to import pneumatic parts of controls from company granting licensing rights on electronics. Reportedly has close relations with Swiss chemical industry and is an important supplier to the paper and food industries, firm also planned and partially installed centralized automatic control system for motors, heating and cooling of Zurich-Kloten international airport. Remag AG, Mittelholzerstrasse 8, 3072 Ostermundigen, Switzerland. Attn: Messrs. Zimmermann and Verboom. WTD. P-72302.

SWITZERLAND—3841—Licenses wanted to manufacture **special cooling apparatus for medical and laboratory applications.** Of particular interest are coolers for storing blood plasma and freezers to —90° C. for handling medical-chemical preparations. Newly established producer of special medical equipment already represents two American firms. W. Brouwer, Frilab AG, Bleicherstrasse 29, 4000 Luzern, Switzerland. WTD. P-72292.

UNITED KINGDOM — 2800 — Manufacturer of **printing inks, varnishes, daylight fluorescent pigments and water colors** seeks licenses or similar arrangement. Has three plants; maintains facilities for bulk blending and handling, grinding and mixing. Prepared to produce, package and ship anywhere in the world to U.S. firm's specifications. C. D. Dane, managing director, Dane & Co. Ltd., Sugar House Lane, London E15 2QN, England. WTD. P-72299.

UNITED KINGDOM — 2821 — Largest U.K. manufacturer of **polyester resins** seeks cross licensing agreements to expand its line, add new products. Offers its blends to U.S. company. British firm's major customers are boat, paper, adhesive and leather industries. Has licensees world-wide; associate company in France. Peter Knight, export office manager, Scott Bader Co. Ltd., Wollaston, Wellingborough, Northamptonshire NN9 7RL, England. Additional information available from the Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. WTD. P-72291.

SWAZILAND—3532—Seeks U.S. participation in venture to produce **simple, rugged agricultural tractor** designed for African terrain. Initially produce 250 units. Also interested in purchasing components. Tractor developed at Swazi Agriculture College; will utilize single lever hydrostatic transmission. Alan Catterick, Managing Director, Swaziland Tractor Co., P. O. Luyengo, Swaziland. P-72277.

SWITZERLAND—3079—Large distributor of supplies for building industry seeks licenses to make **plastic products.** Of particular interest are heat resistant and scratch proof bathroom fixtures, mirrors and panels. Also foams and prefabricated, insulated and finished walls. Reports $38 million in annual sales. Mr. Martinet, Getaz, Romang, Ecoffey S.A., Rue des Terreaux 21, 1000 Lausanne. WTD. P-72258.

THAILAND—3423—License to manufacture **automotive maintenance equipment** in new facility. For domestic and export market. Interests include wrenches, hammers, related products. Firm presently produces LPG tanks under U.S. license. Ladplie Sindusopon, Managing Director, Pressure Container Industry Corp., Ltd., 79 Chueplerng Rd., Chongnonsee, P.O. Box 628, Bangkok. WTD. P-72272.

UNITED KINGDOM—3569, 3842—Licensing or joint venture arrangement sought with U.S. producer of **electronic equipment for the deaf and hard of hearing** by established manufacturer in the industry. Firm produces auditory trainer, reputed to have 75 percent of U.K. market and new geriatric aural aid. Leyton Instrument Co. Ltd., 163 Oxford Rd., Reading, Berks, RG1 7XP, England. Attn: Cyril Johnson, Managing Director. WTD. P-72274.

YUGOSLAVIA—3530—Some form of cooperation, possibly a joint venture, sought by producer of **electric and hydraulic elevator, escalators and conveyer belt systems.** The firm designs, sells, installs, and maintains the equipment it manufactures. Electrodvigalo, Karlovska Cesta 19, Ljubljana. Attn: Edvard Cerncec, General Director. WTD. P-72247.

YUGOSLAVIA—3341—Technical and financial partner needed for expanding the production of various **alloy materials** used in improving the quality of steel for sale in Western Europe. Existing plant, YUGOHROM, is located in Jegunovci. Nikofor Nikoforovski, Gen. Mgr., Technometal-Makedonia Export-Import, 58 Marsala Tita St., Skopje. P-72196

UNITED KINGDOM—3400—Established manufacturer of printed metal closures and sealing equipment for the food industry seeks new product lines by license or joint venture. Products of particular interest are **metal consumer products involving automatic equipment and/or articles for sale to the food or packaging industries.** Firm will also consider **other new concepts capable of commercial development.** E. R. Strang, director, Thomas Hunter Ltd., Omnia Works, Rugby, Warwickshire, England. WTD. P-72293.

UNITED KINGDOM—3600—Major producer and marketer of electric vacuum cleaners, washers and fractional horsepower (f.h.p.) motors seeks licenses to manufacture **new or futuristic products in the electromagnetic area associated with f.h.p. motors, electrical controls, electric motorized equipment and such electromagnetic devices as clutches, brakes, solenoids and control position valves.** Firm produces over 3 million f.h.p. motors a year, employs over 12,000 and has top flight marketing organization. K. G. Delaine, Industrial Products Dept., Hoover Ltd., P.O. Box 12, Perivale, Greenford, Middlesex, England. WTD. P-72287.

UNITED KINGDOM — 3622 — Licenses sought by long established major firm experienced in design and construction of computerized control systems for gas, water and electricity utilities to produce **process control, industrial handling and automation systems.** Westinghouse Brake and Signal Co. Ltd., Chippenham, Wiltshire SN15 1JD, England. Attn: J. Perrin Coley, mgr., Automation Div. WTD. P-72303.

UNITED KINGDOM—3611, 3821—Producer of speedometers and tachometers for medium range diesel engines seeks license or joint venture to manufacture **bellows type differential pressure gauges, panel ammeters and flow meters.** Firm recently developed electrically driven tachometer-speedometer now being tested by major automobile producer. J. Harrison, managing director, Icknield Instruments Ltd., Jubilee Rd., Letchworth, Herts., England. WTD. P-72296.

U.S. Banks' Foreign Activities Increased Strongly During 1971

A report reveals that American banks continued to expand their international activities in 1971 and are now represented in virtually every country in the world. Acting through Edge Act subsidiaries and correspondent arrangements, 112 banks reported representation abroad according to the American Banker's fifth annual survey of the international operations of U.S. banks. This compared with 74 in 1970. Of the 64 foreign branches opened in 1971, the majority were concentrated among institutions which already had substantial international branch networks. First National City Bank led with 17 new branches, followed by Chase Manhattan Bank with 14. A number of banks opened initial branches in the Bahamas.

The American Banker has prepared a directory of *International Activities of U.S. Banks*, by states. For the first time, the list includes a cross-index by country showing which American banks are located in a particular nation. Copies of the directory can be ordered for $3.50 apiece from Burnell F. Heisey, American Banker Reprint Service, American Banker, 525 West 42nd St., New York, N.Y. 10036. Refer to reprint #128.

Licensing In U.S.

For additional information on opportunities to manufacture foreign firm's products in the U.S., write Commerce's Office of International Investment, BIC-874, Bureau of International Commerce, Department of Commerce, Washington, D.C. 20230, (202-967-2248), referring to the appropriate file number assigned each opportunity listed below.

AUSTRIA—An established firm wishes to license their **self-supporting industrial or residential roofs** for manufacture in the U.S. The cost advantages claimed over traditional roof constructions range from 20 to 40 percent, depending on material and span. The roof can be made from aluminum, zinc sheet or polyester on a machine. The invention has been patented in Austria; worldwide patents are pending. The invention was judged as Austria's best for the year 1971. **File 2197**

FRANCE—A patent company wants to sell its patent for a **medical appliance "armchair" specially constructed for the re-education of cervical and dorsal lumbar segments in a functional sitting position.** A system of proportioned progressive counter resistance, both qualitative and quantitative, assists in the reeducation process. **File 2198**

GERMANY—An established firm offers licensing arrangements for their **valves for power transfer and compressed gas cylinders.** All are manufactured as double plate tapered slide valves designed for all pressure and temperature ranges. The pressure bearing parts consist of hammer forgings, which are welded together by a single round seam to form the casings. The central piece of the casing, installed in the pipe axle, is continuously forged from a single ingot to ensure strength along with stiffness within the casing of the fittings. The slide valve closing is performed as a self-sealing cover. **File 2199**

GERMANY—A leading manufacturer of machine tools offers for license a newly developed **process for the manufacture of electrodes for the EDM (electrical discharge) processing of machine tools.** The new process, based on the use of explosives, cuts production time by about 50%, and provides greater accuracy in obtaining the desired thickness. The electrode also has a larger life span, since the copper is more highly compressed. The process utilizes gun powder cartridge detonations over a cushion of water that presses the copper plates into the desired shapes. **File 2200**

NETHERLANDS—To solve the problem of **proper covers for large plastic containers with large openings from 14 to 20 inches,** a Dutch firm offers their special patented covers for manufacturing under license. These are extrusion-blown, plastic screw covers for large synthetic material containers. The good sealing properties of this container closure are due to the engagement of two U-shaped grooves in an intermediate cover and in the screw-cover. These covers engage over the wall of the container and have a soft gasket between them. **File 2201**

SWITZERLAND—A well-known Swiss producer of office supplies offers a license for a novel, **space saving filing system.** The files are either in semi-open sliding boxes or hang in newly developed folders placed in specially designed shelves. The system reportedly is very economic and widely used in Switzerland and other European countries. **File 2202**

SWITZERLAND—A company that presently makes **special packaging machinery** offers a licensing arrangement for some of their product lines: an automatic plastic strapping machine for strapping and bundling of packages, cardboard boxes, newspapers, and similar items; an automatic carton taping machine for the application of gummed paper tape to various-sized boxes on the same line; and automatic feed conveyors for packaging machines. **File 2203**

SWITZERLAND—A reputable manufacturer of electric household appliances offers for manufacture under license **steam and dry irons.** The irons use tap water and operate wet or dry. They come with a light metal sole, a chromium plate cover, and a thermostat and regulator for continuous heat adjustment. Three different weights and sizes are available. **File 2204**

SWITZERLAND—A prominent Swiss company producing electro-technical items and specializing in **switching devices** seeks a joint venture arrangement with a U.S. company. The product line to be produced would include: motor protection elements to avoid damages through overload; electric motor protection combinations for special use, such as application in extremely dry, humid or wet rooms; electric motor protection elements for use externally; and automatic overload fuse switches. **File 2205**

Jamaica Wants Data, Prices On Telephone Equipment

Brochures, technical literature and price lists are requested for international terminal telegraph and telephone equipment, radio and radio-photo receiving and transmitting equipment, antenna cable, electronic components, and testing and maintenance equipment to service a full-range telecommunications and radio communications system in Jamaica. The firm, JAMINTEL, handles telegraph, telephone, radio and radio-photo communications for traffic originating from and destined for Jamaica. Its engineers are looking at all types of equipment in the initial planning stage of a long-range updating of two facilities. The purchases will be direct; no tenders will be published. First year's volume is expected to be $75-100,000 but should grow substantially. Interested U.S. firms should write JAMINTEL, Attn: Garnett Lovelace, 22 Chalmers Ave., Kingston 10, Jamaica, W.I.

Israeli Firm Seeks Portable Prefabricated Motel Units

ESI-Engineering Services International (Attn: Gadish, Director International Business), P. O. Box 33390, Tel Aviv (Cable ENSERV Tel Aviv; Telex 033-666) desires U.S. prefabricated motel units which can be shipped knocked down to Israel and assembled there. They also must be capable of being dismantled and moved several times. Units can have wheels for towing on own steel frame or have capability of transporting on low-bed trailers. Specifically required are: 1) 200 to 400 units, 10-12 feet wide, two bedrooms, two bathrooms, two closets, heating and air conditioning; 2) 20 to 50 family-type units, two to three bedrooms, one bathroom, small kitchenette, small dining room; 3) several units for use as public service buildings (office, dining room, storage). U.S. supplier expected to provide technical assistance for re-assembly. Deadline for completion is March 1973.

Dutch Firm Seeks Makers Of Cable Inspection Products

Van Drenthem Engineering NVJA, Valeriusstraat 98, The Hague, an importer and distributor of laboratory instruments and equipment, is seeking on behalf of a government research institution manufacturers of holographic equipment for the inspection of cables. Contact Mr. F. H. F. Luken of Van Drenthem Engineering for specifications and further information.

Visiting Buyers And Officials

AUSTRALIA—Philip D. Jones, Proprietor, Eastend Booksellers, 181 Exhibition St., Melbourne, Vic. 3000, interested in visiting **wholesalers of paperback books.** June 5 via New York for two weeks. c/o Australian Consulate General, 636 Fifth Ave., New York, N.Y. 10020. Itinerary: New York, Boston, Washington, D.C., Chicago, San Francisco, Los Angeles. WTD 5/72.

FRANCE—Mr. & Mrs. Georges Paul, E.M.C.O., 14 rue de la Monnaie, 35 Rennes, interested in importing into France **cardiac prosthesis (artificial heart valves, partitions, similar inserts) and related surgical specialties;** will attend American Medical Assn's Industrial Exhibit. June 18 via San Francisco for one week. c/o Hotel Fairmont, 950 Mason St., San Francisco, Calif. 94106. Itinerary: San Francisco, Los Angeles, Las Vegas, New York. WTD 10/71.

ISRAEL—Shay Mayer, Executive Vice President, and Mordechai Haase, Manager, Shalom Stores Ltd., Shalom Tower, 9 Ahad Ha'am St., Tel Aviv, interested in purchasing **consumer goods for "America Week" promotions and requesting technical information for wax museums, theme amusement parks, retail store techniques, shopping centers.** June 15 via New York for one month. c/o Kurt Heilbrunner, Marsent International, Inc., Pan American Bldg., New York, N.Y. Itinerary: New York, Philadelphia, Washington, D.C., Orlando, Tampa, Houston, Dallas, Phoenix, Los Angeles, San Francisco. WTD 12/69.

NORWAY—Ingar Eriksen, Dept. Manager, Johan Basberg & Co. A/S, Raadhusgaten 10, Oslo 1, interested in representing manufacturers of **paper specialties.** June 14 via New York until July 11. c/o Mr. Ploot, O. Mustad & Son, P. O. Box 396, Auburn, N.Y. 13021. Itinerary: New York, others as required. WTD in preparation.

Foreign Trade Opportunities

These trade opportunities are based on reports received from the U.S. Foreign Service by the Business Opportunities Staff and other units of the Bureau of Domestic Commerce (BDC), U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1967 Census of Manufacturers, used extensively by Government and industry.

U.S. firms should be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only firms or individuals with good reputations. However, the Department cannot be responsible for any trade relations.

The mark (●) indicates that this trade opportunity is a request for bids by a foreign government agency. A (★) at the end means that additional information may be borrowed by U.S. firms from the individual division of BDC. To avoid delays, requests for loan material should specify the country, commodity and foreign government agency.

WTD indicates that a World Trade Directory Report containing financial and business background information on the foreign firm is available for $2 from the U.S. Department of Commerce, BIC-976, Washington, D.C. 20230.

Direct Sales

Specific foreign firms have expressed interest in direct purchases of the products below. See also the "Agencies" listing.

Yarn, thread mills, products

22813—VIET-NAM—Spun rayon yarn 30/1 deniers. Annual requirements: 120,000 lbs. of spun rayon yarns, 30/1 deniers, delivered in 4 quarterly shipments of 30,000 lbs. each. Quotations c.i.f. and ocean freight Saigon indicated separately. Samples, descriptive materials requested. Hang Bong Bach Tuyet (importer, dist., mfr.), 148 Nguyen Minh Chieu, Saigon. WTD in prep.

Sawmills, planing mills

24211—INDIA — Soft woods including beech, birch, pine. Quotations c.i.f. Calcutta. Specifications available from Business Opportunities Staff, BDC-584, Rm. 4813, U.S. Dept. of Commerce, Washington, D.C. 20230. Nipha Machinery Manufacturers Pvt. Ltd. (mfr.), 25 Netaji Subhas Road, Calcutta-1. WTD in prep.

Paper mills

26216—INDIA—Ten met. tons dyeline base paper for conversion into sensitized paper; paper to be supplied on reels 101.6 centimeters wide with inner diameter of cores 7.5 centimeters. Requirement is on continuing basis. Ammoferr (importer, dist., mfr.), Post Box No. 1100, Ahmedabad 2. Attn: R. M. Pandya. WTD 5/72.

Drugs

28314 — PAKISTAN — Diagnostic subagents, other biologics for human use. Abdul Sattar & Sons (importer, dist., agent), P.O. Box 26, 30/1 MacLagan Rd., Lahore, Punjab. WTD in prep.

Detergents, cleaning preparations

28423—ITALY—Swimming pool cleaners. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

Chemical products

28993—ITALY — Swimming pool water purifying chemicals. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

Petroleum refining

● **29100—BURMA** — Supply of lubricating oils, 9.3 million imperial gallons, and 5,400,000 pounds of greases. Delivery to be made in four equal shipments during the last quarter of 1972 and the first three quarters of 1973. Tender No. SM/ISP/9, bid deadline June 30. Tender available from the Marketing Manager, Myanma Oil Corp., P.O. Box 1049, 622 Merchant St., Rangoon.

Tires, tubes

30113—NETHERLANDS — Used or obsolete aircraft tires, casings. Sj. van der Heide N.V.; Attn: D. Reichman (importer), Prins Alexanderweg 114, Huis ter Heide, Zeist. WTD 7/71.

Plastic products

30796—ITALY—Prefabricated fiberglass and reinforced plastic swimming pools; collapsible swimming pools. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

Leather tanning, finishing

31114—ZAMBIA—One million sq. ft. of black and brown leather yearly. Leather requirements are 1.6 and 1.8 mm. Requests quotations. Zambia Bata Shoe Co., Ltd., Attn: H. Strohmayer, Chief Buyer (mfr.), P.O. Box 479, Lusaka. WTD in prep.

Handbags, personal leather goods

31720—JAMAICA—Handbags, personal leather goods. Brochures, price list for "mod" products designed for youth. Aquarius Ltd., Attn: Hermin Chin-Loy (importer, mfr., retailer), 9 Constant Spring Rd., Kingston 10. WTD 5/72.

Rolling, drawing, extruding of nonferrous metals

● **33500—INDIA**—Tenders are invited and should be sent to Director General, Supplies and Disposals, Jeevantara Bldg., Parliament St., New Delhi, for nickel silver sheet. Tender No. P/202/45/132-260/13.9.71/P1. Bid deadline 10 a.m. (IST), July 18. Tender fee $2.50 each. (The receipt must be attached with your quotation). Tender documents available from India Supply Mission, 2107 Mass. Ave., NW., Washington, D.C. 20008. Source: IDA Credit.

● **33500—INDIA**—Railway Board, Ministry of Railways, Rail Bhavan, New Delhi-l, India, invites tenders for 56 kms. of telephone cables. Tender No. RE(S)/8 of 1972. Bid deadline 2:30 p.m. (IST), July 10. Source: Global. Tender documents are available from India Supply Mission, 2107 Mass. Ave., NW., Washington, D. C. 20008. Tender fee $5.50 each (the receipt must be attached with your quotation). Send bids to Railway Board, Ministry of Railways, Rail Bhavan, New Delhi-l, India.

● **33500—IRAN** — The Iranian State Railways wants to purchase eight items of underground sheated cable usable for telephone and railway signalling. Tender No. 121, 164/51. Bid deadline 9 a.m., July 17.

• **33500—IRAN**—The Iranian State Railways would like to purchase by way of invited bids: 30,000-kgs. Bimetal Copperweld 4mm. wire. Offers will be accepted until 9 a.m. on July 22. Tender No. 186-51.

Cutlery, hand tools, general hardware

34294—GERMANY—Builders hardware for transit to Near East countries only. Direct purchase & agency. A.H. Moussa (importer, agent, exporter and export broker for Near East), 16 Schoene Aussicht, 6000 Frankfurt/Main 1. WTD 5/72.

34230 — GERMANY — Hand and edge tools for painters, glaziers, masons, layers of floor coverings. Korbach-Werkzeug Co. (dist., mfr., exporter), 60 Johannes Flintrop Str., 402 Mettmann. WTD 4/72.

Fabricated metal products

34990—ITALY—Swimming pool ladders. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

Farm machinery

• 35200—GREECE—Supply, installation and putting into operation of a poultry slaughterhouse. — Tender 2246, — Deadline June 29. Contact Agricultural Bank of Greece, Supplies Services Sec., 6 Christou Lada St., Athens.

Construction, mining, machinery

35310—GERMANY — Earthmoving and road construction machinery for transit to Near East countries only. Direct purchase & agency. A. H. Moussa (importer, agent, exporter and export broker for Near East), 16 Schoene Aussicht, 6000 Frankfurt/Main 1. WTD 5/72.

Metalworking machinery

35423—JAMAICA — Machinery to produce ¾" helicoil springs and mesh for bedding. Brochures, quotations requested. Cain's Motor Post Ltd., Attn: Roy P. Cain (importer, retailer), 166-170 King St., Kingston. WTD 12/71.

35484 — GERMANY — New products in field of automotive maintenance equipment (would also consider production under license). C.i.f. Hamburg, tare/gross; terms of delivery as per agreement. ZUFOR-Industriemaschinen (importer, dist., mfr.), D-85 Nuernberg, Saganer Strasse 6. WTD 4/72.

Special industry machinery

35511—ZAMBIA—Soft ice cream making plant, variater and blender. Quote price of plant landed Lusaka. Dairy Produce Board of Zambia, Attn: Mr. Phillips, Chief Purchasing Officer (mfr.), P.O. Box 124, Lusaka. WTD in prep.

35594 — ITALY — Rubber-working machinery, equipment (except pressers); principally, cold rubber-buffing machines. Direct purchase & agency. S.I.E.M. di Bergatto Dr. Ing. Sergio (importer, mfr., agent), Via Breglio 18, 10147 Torino. WTD in prep.

General industrial machinery

• 35600 — SRI LANKA (CEYLON) — Silicon rectifiers, evaporators, chlorine liquefaction plant, steam boiler, centrifuge, lime kiln, cyrstallizer, hydrochloric acid plant, and low tension switch gear. Tender No. Com/Ten/72/78; bid deadline July 17. Paranthan Chemicals Corp., 29 Melbourne Ave., Colombo 4. Specifications available on a short term loan basis to firms domiciled in the U.S. from General Industries Division, BDC-772, U.S. Dept. of Commerce, Washington, D.C. 20230 ★(202 967-5593).

35610—ITALY—Swimming pool pumps. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

35615—ITALY—Swimming pool sump pumps. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

Office, computing machines

35720—IRAN — Typewriters. Khamisi Printing Press (importer), Amir Kabir Ave., Abadan. WTD 5/72.

Service industry machines

35850—VIET-NAM—Freeze dryer. Capacity: five tons of water to be removed daily; working shifts: three shifts of eight hrs. each; Advise space area requirements for each component unit, such as freezer, vacuum drying chamber. Quotations c.i.f. and ocean freight Saigon indicated separately. Catalogs, printed materials requested. FOPROCO (importer, dist., mfr.), 20 Nguyen Hue, Saigon. WTD in prep.

35890—GERMANY—New products in field of service industry machines and equipment particularly as used by municipalities, communities. C.i.f. Hamburg, tare/gross; terms of delivery as per agreement. ZUFOR-Industriemaschinen (importer, dist., mfr.), D-85 Nuernberg, Saganer Strasse 6. WTD 4/72.

Special Action

Each of the following trade notices is deemed to rate the special attention of American manufacturers and suppliers by the U. S. Commercial Officers overseas.

35513 — YUGOSLAVIA — Complete, automatic processing line for slaughterhouse capable of handling 250 pigs per hr., with special interest in machinery for automatic cleaning of carcass skin; to be installed as turn-key operation in building shell which purchaser shall provide. SLJEME, Agricultural-Industrial Kombinat Zagreb-Sesvete. Attn: Mr. Ivica Prelec, Dir.

Electric transmission, distribution

• 36100 — ALGERIA — The Algerian Broadcasting and Television (RTA) has issued an invitation for bids calling for the supply, installation, and start up of power generating equipment (probably diesel generator sets). Bid deadline August 31. Bid documents may be obtained by sending $20 to Direction des Services Techniques et de l'Equipment 21, Boulevard des Martyrs, Alger, Algeria.

• 36100 — AUSTRALIA — Supply of thirty 330 KV. disconnect switches. Tender No. 92/72, bid deadline July 26. The Controller of Stores, State Electricity Commission of Western Australia, Box L921, G.P.O., Perth, 6001. A copy of specifications is available for review only, not for loan, from the Power and Electrical Equipment Program, BDC-776, Room 2806, U.S. Department of Commerce, Washington, D.C. 20230, (202-967-3526).

• 36100—NEW ZEALAND—Supply of two 30 MVA 110/11 KV transformer banks and spare unit; alternatively, two 30 MVA 110/11 KV three-phase units. Tender No. 575, bid deadline July 18. Secretary, Tenders Committee, New Zealand Electricity Dept., P.O. Box 12144, Wellington North. Specifications are available on a short term loan basis to companies domiciled in the U.S. from the Power and Electrical Equipment Program, BDC-776, Room 2806, U.S. Department of Commerce, Washington, D.C. 20230, (202-967-3526).

• 36100—PANAMA—Design, manufacture and install two 96 MVA generator transformers and two 105/140/175 MVA step-down transformers. Tender No. 262, bid deadline Sept. 5. Electric Power Entity Instituto De Recuisos Hidraulicos Y Electrificacion (IRHE), Apartado Postal 5285, Panama 5. Plans and specifications can be purchased from the above address for $50 per set. They are also available for review at the offices of Stone and Webster Consultants, 90 Broad St., New York, N.Y. and at the Panamanian Embassy, 4201 Connecticut Ave., NW. Wash., D.C. 20008.

Household appliances

36391—ITALY—Swimming pool heaters. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

Electrical lighting, wiring equipment

• 36400—THAILAND—Supply of preformed armor grip suspension for 795 MCM, 37-strand all aluminum conductor. Tender No. MEA-PSD-284, bid deadline June 27. Purchases and Stores Dept., Metropolitan Electricity Authority, 121 Chakpet Rd., Bangkok 2. Specifications are available on a short term bases to companies domiciled in the U.S. from the Power and Electrical Equipment Program, BDC-776, Room 2806, U.S. Department of Commerce, Washington, D.C. 20230, (202-967-3526).

Motor vehicles, equipment

37141—SPAIN—Accessories for motor vehicles, especially novelty items, decorations. Paulino Moreno, S.A. (importer, dist.), Los Vascos, 20–28, Madrid (3), WTD 3/72.

Railway freight cars

• 37400—KUALA LUMPUR—Supply of 250 pallet wagons, 250 log wagons, 100 under-frames, all meter gauge with ASF ride control bogies, SAB brake regulators, MCA-DA couplers. Tender Number L2B/MALAY RLY S1/40281/1. Bid deadline August 2. Tender documents available from Crown Agents, 4 Millbank, London S.W.1. One copy of tender available for review in Transportation Equipment Div., OBRA, Room 1118, U.S. Department of Commerce, Washington, D.C. 20230 ★(202-967-3296).

Transportation equipment

37910—GERMANY — Parts, accessories for trailer coaches, housing type. THRUN-EICKER, KG (mfr., retailer), exporter 35–37 Koelner Str., 433 Muelheim/Ruhr. WTD 4–72.

Surgical, medical, dental instruments

38410—ISRAEL—Automatic surgical instrument washers for hospitals. GAR-MAC Ltd. (importer, dist., agent), 11 Montefiore St., P.O. Box 1432, Tel Aviv. Cable address: CLEENEX TELAVIV. WTD 11/71.

Watches, clocks, parts

38711—MOROCCO — Repeating wristwatch chronographs with circular slide rule including at least: seconds scale; 30 minute and 12 hour totalizers; decimal scale; units per hour scale, two logarithmic scales. Offers for various models to include specifications, literature, prices, time for delivery, minimum quantities, other pertinent terms. Correspondence requested in French. CORICAF Comptoir de Représentations Industrielles et Commerciales pour l'Afrique (importer), 291, Ave. Mohamed V, Rabat. WTD 5/72.

Toys, amusement, sporting goods

39493—GERMANY—All kinds of sporting, athletic goods. Direct purchase & agency. ENV Vertrieb Europaeischer Neuheiten GmbH. & Co. KG., Attn: Mr. Grinke (importer, dist., agent), 32 Berliner Str., 6000 Nider–Eschbach. WTD 5/72.

39493—ITALY — Swimming pool springboards, slides. Ditta Giovannini del Rag. Durelli (importer, dist., retailer), Corso Beccaria 2, 10122 Torino. WTD in prep.

Agencies

Specific foreign firms have expressed interest in agency agreements for the products listed below. Exclusive agencies for these products are wanted only if specified.

Meat products

20111—SURINAM—Beef, salted. Tjon Sieuw & Bros (importer, dist., retailer), G. G. Maynardstraat 86, Nieuw Nickerie. WTD in prep.

20116—SURINAM — Salted pig tails. Fung Fen Chung Trading Co., Ltd. (importer, dist., retailer), Gouverneurstraat 84–86, P.O. Box 24, Nieuw Nickerie. WTD in prep.

20138—SURINAM—Canned meats. Laltapersad Bishesar (importer, dist., retailer), Governeurstraat 107, P.O. Box 60, Nieuw Nickerie. WTD in prep.

Dairy products

20234—SURINAM—Ice cream mix. Tjon Tjauw Liem Bros (importer, agent, retailer), Wilhelminastraat 10, Nieuw Nickerie, Nickerie. WTD in prep.

Canning, preserving foods

20310—SURINAM—Canned and cured seafoods. Tjon Tjauw Liem Bros (importer, agent, retailer), Wilhelminastraat 10, Nieuw Nickerie, Nickerie. WTD in prep.

20331—SURINAM—Canned vegetables. Tjon Sieuw & Bros (importer, dist., retailer), G. G. Maynardstraat 86, Nieuw Nickerie. WTD in prep.

Grain mill products

20411—SURINAM—Wheat flour. Fung Fen Chung Trading Co. Ltd. (importer, dist., retailer), Gouverneurstraat 84–86, P.O. Box 24, Nieuw Nickerie. WTD in prep.

Beverage industries

20871—SURINAM—Flavoring extracts, fruit essences. Pan American General Store (importer, agent, retailer), Gouverneurstraat 68, P.O. Box 41, Nieuw Nickerie. WTD in prep.

Cigarettes

21110—AFARS & ISSAS—Cigarettes. J. J. Kothari & Co. Ltd. (importer, agent, retailer), Place Lagarde, P.O. Box 171, Djibouti, French Territory of the Afars & Issas. WTD 4/72

21110—SURINAM—Cigarettes. Chatterpall Bharratsingh (importer, agent, retailer), Balatastraat 65, P.O. Box 37, Nieuw Nickerie. WTD in prep.

Broad woven fabric mills, cotton

22117—SOUTH AFRICA — Cotton dress fabrics. M. Marcus & Co. (agent), 128/129 Boston House, Strand St., P.O. Box 4778, Cape Town, Cape Province. WTD 5/72.

Manmade fiber, silk

22212—JAMAICA—Nylon fabrics for upholstery. Brochures, samples, prices requested. R. A. Goulbourne & Co. Ltd. (importer, dist., agent), 31 Princess St., Kingston. WTD in prep.

22218—SOUTH AFRICA—Shirting, cotton/man-made fiber mixtures; suiting, cotton/polyester mixtures; dress fabrics, man-made fiber. M. Marcus & Co. (agent), 128/129 Boston House, Strand St., P.O. Box 4778, Cape Town, Cape Province. WTD 5/72.

Floor covering mills, products

22720—NETHERLANDS—Tufted wall-to-wall, other carpeting, rugs; tufted bathmats, bathmat sets. Direct exclusive agency representations for Benelux countries, Western Germany. Handelsonderneming "Elka" (importer, dist., agent), P.O. Box 519, 55 Spaarneweg, Vijfhuizen, North Holland. WTD 3/72.

Men's, youths', boys' furnishings, work clothing

23212 — SURINAM — T-Shirts, men's, boys'. Chatterpall Bharratsingh (importer, agent, retailer), Balatastraat 65, P.O. Box 37, Nieuw Nickerie. WTD in prep.

23214—NETHERLANDS—High quality brand men's shirts. Exclusive representations for Netherlands, Norway. L. W. van Oyen (agent), Valkenstein 88, Amsterdam, (or Rødbergveien 23, Oslo-5, Norway). WTD 4/72.

23221—SURINAM—Men's, boys' underwear; knit, woven. Pan American General Store (importer, agent, retailer), Gouverneurstraat 68, P.O. Box 41, Nieuw Nickerie. WTD in prep.

23271—SURINAM—Men's, boys' dress, sport trousers. Pan American General Store (importer, agent, retailer), Gouverneurstraat 68, P.O. Box 41, Nieuw Nickerie. WTD in prep.

Women's, misses', juniors' outerwear

23317—NETHERLANDS—High quality brand ladies' blouses. Exclusive representations for Netherlands, Norway. L. W. van Oyen (agent), Valkenstein 88, Amsterdam, (or Rødbergveien 23, Oslo-5, Norway). WTD 4/72.

Fabricated textile products

23910 — NETHERLANDS — Curtains, draperies, related household textiles. Direct agency representations for Benelux countries, West Germany. Handelsonderneming "Elka" (importer, dist., agent), P.O. Box 519, 55 Spaarneweg, Vijfhuizen, North Holland. WTD 3/72.

23926—NETHERLANDS — Bedspreads, bedsets, similar housefurnishing textiles. Direct exclusive representations for Benelux countries, West Germany. Handelsonderneming "Elka" (importer, dist., agent), P.O. Box 519, 55 Spaarneweg, Vijfhuizen, North Holland. WTD 3/72.

Sawmills, planing mills

24212 — JAMAICA — Dressed lumber: redwood. Price list requested for standard sizes. KIW Hardware Ltd., Attn: John Davis (importer, dist., agent), 138 Spanish Town Rd., Kingston 11. WTD in prep.

24212—SPAIN—Douglas fir and Southern yellow pine sawn and dressed lumber. Barros & Tubbe (agent), Martín de los Heros, 70, Madrid (8). WTD 4/72.

Millwork, veneer, plywood, prefabricated structural wood products

24315—JAMAICA—Redwood louvre door and window blades in standard sizes. Price list requested. KIW Hardware Ltd., Attn: John Davis (importer, dist., agent), 138 Spanish Town Rd., Kingston 11. WTD in prep.

Converted paper, paperboard products

26440—JAMAICA—Vinyl wall paper in various grades. Brochures, samples, price list requested. KIW Hardware Ltd., Attn: John Davis (importer, dist., agent), 138 Spanish Town Rd., Kingston 11. WTD in prep.

26491—AFARS & ISSAS—Stationery, tablets, related products. J. J. Kothari & Co. Ltd. (importer, agent, retailer), Place Lagarde, P.O. Box 171, Djibouti, French Territory of the Afars and Issas. WTD 4/72.

Drugs

28330 — SWITZERLAND — Bio-chemicals for research institutes, laboratories such as enzymes, glutamic acids, similar products. (Not for industrial production). Chemie Brunschwig AG, Attn: R. Brunschwig (importer, dist., agent), P.O. Box, 4009 Basel. WTD 4/72.

28332—SURINAM—Medicinal, botanical drugs. Pan American General Store (importer, agent, retailer), Gouverneurstraat 68, P.O. Box 41, Nieuw Nickerie. WTD in prep.

Soap, detergents, cleaning preparations, perfumes, cosmetics

28445 — SURINAM — Cosmetic, other toilet preparations. Pan American General Store (importer, agent, retailer), Gouverneurstraat 68, P.O. Box 41, Nieuw Nickerie. WTD in prep.

Agricultural chemicals

28790 — SURINAM — Insecticidal and fungicidal preparations, for agricultural use on rice. Continental Agencies (importer, dist., agent), Corantijnpolder A 58, P.O. Box 95, NW. Nickerie. WTD in prep.

Plastic products

30794 — NETHERLANDS — Packaging containers, wrappings and similar products. Exclusive representations for Benelux countries. A.M.J. Maters Industrieelen Handelsbedrijf (importer, dist., agent), 1 Lepelstraat, Enspijk, Gelderland. WTD in prep.

Footwear, except rubber

31413 — SURINAM — Youths' and boys' shoes. Pan American General Store (importer, agent, retailer), Gouverneurstraat 68, P.O. Box 41, Nieuw Nickerie. WTD in prep.

31414 — SURINAM — Shoes; women's work, dress, play. Pan American General Store (importer, agent, retailer), Gouverneurstraat 68, P.O. Box 41, Nieuw Nickerie. WTD in prep.

Glass, glassware

32291—SURINAM—Glass cooking ware. Tjon Sieuw & Bros. (importer, dist., retailer), G. G. Maynardstraat 86, Nieuw Nickerie. WTD in prep.

Structural clay products

32550—GERMANY — Refractory material and refractory linings for industrial ovens, suspension ceilings for fire chambers of all kinds. KARRENA-Feuerungsbau GmbH (dist., mfr.), 20 Ruedigerstr., 4 Duesseldorf. WTD in prep.

32592—GERMANY—Chimney pipe and tops of all kinds, sizes of steel concrete, bricks, steel. KARRENA-Feuerungsbau GmbH (dist., mfr.), 20 Ruedigerstr., 4 Duesseldorf. WTD in prep.

Heating apparatus, plumbing fixtures

34310—JAMAICA—Enameled iron and metal plumbing fixtures. Brochures, price list requested. KIW Hardware Ltd., Attn: John Davis (importer, dist., agent), 138 Spanish Town Rd., Kingston 11. WTD in prep.

34320—JAMAICA—Plumbing fixture fittings, trim. Brochures, price list requested. KIW Hardware Ltd., Attn: John Davis (importer, dist., agent), 138 Spanish Town Rd., Kingston 11. WTD in prep.

34336—JAMAICA—Solid waste disposal equipment; household, industrial. Brochures, price lists requested. Grace Agricultural & Industrial Co. Ltd., Attn: Simon Soutar (importer, dist., agent), P.O. Box 86, Kingston. Attention: Simon Soutar. WTD 10/71.

Construction, mining, materials handling machinery, equipment

35370—FINLAND — Traveling platform loader/unloader and elevator systems (also known as highloaders) for handling large aircraft (eg. DC-10) cargo at airport; also mobile catering highloaders. Yrjö Laakso & Co. Oy, Attn: Mr. Yrjö Laakso, Mng. Dir. (importer, dist., agent), Mannerheimintie 16 A, 00100 Helsinki 10. WTD 3/72.

Special industry machinery

35540 — FRANCE — Valves for pulp, paper industry. MECAL SA., S. A. Mécanique & Calandres (importer, mfr.), 27 route de la Fédération, 67–Strasbourg-Meinau. WTD in prep.

35552 — VENEZUELA — Equipment for metal lithography. Requests catalogs, quotations. Correspondence requested in Spanish. Johansen & Cía., Sucrs, C.A. Attn: Erik Halbro (importer, agent, retailer), Apartado 633, Caracas. WTD 8/71.

35592—SUDAN—Steel foundry with capacity of one to two tons a day. Quotations c&f including 5% commission. Modern Supplies Agency (agent), P.O. Box 1805, Khartoum. WTD in prep.

35594—ISRAEL—Tire-building machinery and equipment, to include tire-building drums, mill-room equipment, tire-building/band-building machines. Exclusive agency. M.P.C. Foreign Trade Ltd., Attn: Mr. Peled, Mgr. (importer, dist., agent), 45 Bialik St., P.O. Box 451, Ramat-Gan. Cable address: MPC-RAMATGAN. WTD in prep.

35595—SUDAN—Machinery to equip. complete plant for manufacturing bottle caps; capacity 500 to 700 tons annually with lithographing, color printing equipment. Prices c&f including 5% commission. Modern Supplies Agency (agent), P.O. Box 1805, Khartoum. WTD in prep.

General industrial machinery

35642—VENEZUELA—Air purification and fume collecting equipment for textile industry. Requests catalogs, quotations, etc. Correspondence requested in Spanish. Johansen & Cía Sucrs, C.A., Attn: Erick Halbro (importer, agent, retailer), Apartado 633, Caracas. WTD 8/71.

35690 — NETHERLANDS — Packaging and wrapping machinery, related products. Exclusive representations for Benelux countries. A.M.J. Maters Industrieelen Handelsbedrijf (importer, dist., agent), 1 Lepelstraat, Enspijk, Gelderland. WTD in prep.

35690 — NETHERLANDS — Packaging machines. Exclusive representations for Netherlands or Benelux countries. P. van Dijk N.V.; Attn: A. R. van Dorssen (importer, dist., agent), P.O. Box 56, Weesp. WTD 11/71.

35690—VENEZUELA—Filters for cement factories. Requests catalogs, quotations. Correspondence requested in Spanish. Johansen & Cía., Sucrs, C.A., Attn: Erik Halbro (importer, agent, retailer), Apartado 633, Caracas. WTD 8/71.

Office, computing, accounting machines

35733 — NETHERLANDS — Computer peripheral equipment. Representations for Netherlands or Benelux countries. Ormas N.V.; Attn: G. W. de Moor (importer, dist., agent), 1 Wilhelminalaan, De Bilt. WTD in prep.

35741 — NETHERLANDS — Electronic desk-top calculators. Representations for Netherlands or Benelux countries. Ormas N.V.; Attn: G. W. de Moor (importer, dist., agent), 1 Wilhelminalaan, De Bilt. WTD in prep.

35791 — NETHERLANDS — Automatic mailing machines, equipment. Exclusive agency. "Pretec" Precisie Techniek B.V. (importer, dist., agent), 28 Kuyperlaan, P.O. Box 53, Zwanenburg. WTD in prep.

Service industry machines

35850—SWITZERLAND—Electric water coolers 220/or 380 volt; blood plasma coolers for stocking purposes; freezers up to minus 90 degrees centigrade for stocking of medical—chemical preparations. FRILAB AG, Attn: W. Brouwer (importer, dist., agent), Bleicherstrasse 29, 6000 Luzern. WTD 5/72.

35851—FRANCE — Small size ice-cube making machinery for restaurants. SODIELEC (importer), 3 rue de Lancry, 75–Paris 10e. WTD in prep.

35851—SWITZERLAND — Compact air conditioners for permanent installation and transportable. FRILAB AG, Attn: W. Brouwer (importer, dist., agent), Bleicherstrasse 29, 6000 Luzern. WTD 5/72.

35890—VENEZUELA—Trash and waste compressing and reduction units for industry. Requests catalogs, quotations. Correspondence requested in Spanish. Johansen & Cía., Sucrs, C.A., Attn: Erik Halbro (importer, agent, retailer), Apartado 633, Caracas. WTD 8/71.

35892—JAMAICA—Solid waste disposal equipment, electric, gas or chemical. Brochures, price lists requested. Grace Agricultural & Industrial Co. Ltd., Attn: Simon Soutar (importer, dist., agent), P.O. Box 86, Kingston. WTD 10/71.

Electric transmission, distribution equipment

36123 — SWEDEN — Power regulators, boosters, reactors, other transformers, transformer parts, from 0 to 1,000 kv.-a., for OEM customers. NOACK AB, Nordiska Ackumulatorfabriken (importer, mfr., agent), Box 5317, S-102 46 Stockholm 5. WTD 5/72.

36131—SWEDEN — Switchgear, except ducts, relays. NOACK AB, Nordiska Ackumulatorfabriken (importer, mfr., agent), Box 5317, S-102 46 Stockholm 5. WTD 5/72.

Electrical industrial apparatus

36220—FRANCE — Programmed timers. SNAPEC (dist., mfr.), 10, rue de l'Hospital St. Louis, Paris 10e. WTD in prep.

36292 — SWEDEN — Rectifying apparatus: inverters which convert DC to AC voltage. NOACK AB, Nordiska Ackumulatorfabriken (importer, mfr., agent), Box 5317, S-102 46 Stockholm 5. WTD 5/72.

Household appliances

36310—AFARS & ISSAS — Household appliances, electrical; AC 220 v, 50 cycles. J. J. Kothari & Co. Ltd. (importer, agent, retailer), Place Lagarde, P.O. Box 171, Djibouti, French Territory of the Afars & Issas. WTD 4/72.

36393—JAMAICA—Food waste disposers for households. Brochures, price lists requested. Grace Agricultural & Industrial Co. Ltd., Attn: Simon Soutar (importer, dist., agent), P.O. Box 86, Kingston. WTD 10/71.

Electric lighting, wiring equipment

36410—AFARS & ISSAS — Electrical lighting and wiring equipment; AC 220 volt, 50 cycles. J. J. Kothari & Co. Ltd. (importer, agent, retailer), Place Lagarde, P.O. Box 171, Djibouti, French Territory of the Afars and Issas. WTD 4/72.

36430 — NETHERLANDS — Terminals & connectors for electronic devices. Representations for Netherlands or Benelux countries. Ormas N.V.; Attn: G. W. de Moor (importer, dist., agent), 1 Wilhelminalaan, De Bilt. WTD in prep.

Radio, television receiving sets

36510—GERMANY—Hi fi, stereophonic equipment. EURPAC Service GmbH., Attn: Mr. Lobron (importer, dist., agent), 6079 Buchschlag, Eleonore Anlage. WTD 5/72.

36520—GERMANY—Prerecorded stereo tapes, cartridges. EURPAC Service GmbH., Attn: Mr. Lobron (importer, dist., agent), 6079 Buchschlag, Eleonore Anlage. WTD 5/72.

Electronic components, accessories

36740—UNITED KINGDOM — Light emitting gallium arsenide phosphide, gallium phosphide semiconductors. G.D.S. (Marketing) Ltd. (importer, dist.), Salt Hill, Bath Rd., Slough, Buckinghamshire. WTD in prep.

36743—UNITED KINGDOM—Microwave semi-conductors both diodes and RF power. G.D.S. (Marketing) Ltd. (importer, dist.), Salt Hill, Bath Rd., Slough, Buckinghamshire. WTD in prep.

Instruments for measuring, controlling, indicating physical characteristics

38210 — SWITZERLAND — Test chambers for simulation of extreme temperatures, pressures, similar phenomenas. FRILAB AG, Attn: W. Brouwer (importer, dist., agent), Bleicherstrasse 29, 6000 Luzern. WTD 5/72.

38214 — FRANCE — Tachographs for trucks. Hydro Equipements (importer, dist.), 6, place du Rhône, 94-Rungis Silic. WTD in prep.

Photographic equipment

38610—AFARS & ISSAS—Photographic equipment, supplies. J. J. Kothari & Co. Ltd. (importer, agent, retailer), Place Lagarde, P.O. Box 171, Djibouti, French Territory of the Afars & Issas. WTD 4/72.

Wholesalers

50930—ISRAEL—Steel scrap, bundles or compressed. Requirement: 150,000 tons per yr. Contact Enterprises Ltd. (dist., agent, retailer), 41 Shaul Hamelech Blvd., Room 602/Section D, P.O. Box 33396, Tel Aviv 61330. WTD in prep.

Other Foreign Official Tenders

URUGUAY — The ANCAP (Division Combustibles), Luis de la Pena 1000, Montevideo, has issued a bid call for a **fuel storage and truck loading turnkey installation** to handle 1,174,000 cubic meters of bottled gas, gasoline, kerosene and gas oil per year (Tender No. 0/0050). Financing is by the Inter-American Development Bank. Bid deadline is June 22. Specifications may be viewed at: Room 2116, U.S. Department of Commerce Main Building, Washington, D.C. and 11444 Federal Bldg., 450 Golden Gate Ave., San Francisco. Sets of blueprints available from the ANCAP at UP 25,000 each. Feasibility studies were made by Bureau D'Etudes Industrialies et de Cooperation de L'Institut Francais du Petrole. All interested parties must enter bids through their Uruguayan agent or representative.

MALAYSIA—The Controller of Telecommunications has issued Tender No. KPT (P/A) 7757F for **very high frequency, frequency-modulated transmitters and receivers for international maritime communications.** Bid deadline is July 10. Copies of tender announcement and specifications are available from the Controller of Telecommunications, Special Radio Section Telecoms. Hq., Jalan Bukit, Nanas, Kuala Lumpur or on a short-term loan basis to firms located in the U.S. from the Communications-Electronics Division, BDC-720, U.S. Department of Commerce, Washington, D.C. 20230, ★(202-967-4823).

MALAYSIA—The Department of Telecommunications is inviting tenders for the supply and installation of an **automatic message switching center.** Equipment includes racks, consoles, power supply, switchboard and control, supervising, protection and test equipment. Successful bidder will also be required to train personnel. Bid deadline is July 12. A copy of tender announcement and specifications are available from Ketua Pengarah Talikom, Ibu Pejabat Talikom, Jalan Bukit Nanas, Kuala Lumpur, for approximately $105 or on a short-term loan basis to firms located in the U.S. from the Communications-Electronics Division, BDC-720, U.S. Department of Commerce, Washington, D.C. 20230, ★(202-967-4822).

SINGAPORE—Public Utilities Board invites tenders for the supply, delivery, erection, testing and maintenance of **electrical and mechanical plant for five pumping stations** with rated capacities ranging from 10 to 40 million gallons per day (MGD). The equipment supplied will include the pumping units, pipeworks and valves, screens, rotary band screens, traveling cranes, electrical circuits and switchboards, monitoring measurement regulation protection and safety devices and all auxiliary equipment necessary for the perfect working of the pumping stations, except the civil works. All pumps shall be immersed vertical type. Tender documents are available from the consulting engineers either in Singapore upon receipt of a tender deposit of $500, or in Paris upon receipt of a bank draft or cashier's check for 68 pounds sterling, made payable to Messrs. Allen and Williams at the following addresses: Renardet Singapore, 2 Winstedt Rd., Singapore 9, Singapore or Renardet Engineering, 5 bis rue Keppler, Paris 16eme, France. The tender deposit will be returned to tenderers who have submitted a bona fide tender. Tenders close at 2:15 p.m. (Singapore time) on July 3. Copies of a table showing basic data for pumping stations is available from the Construction, Water Resources & Eng. Div., BDC-742, U.S. Dept. of Commerce, Washington, D.C. 20230 (202-967-3602), or the U.S. Dept. of Commerce Field Office, 11444 Federal Bldg., 450 Golden Gate Ave., San Francisco, Calif. 94102 (415-556-5864).

THAILAND—The Telephone Organization of Thailand (TOT) has issued Tender No. 83/2515 for telephone equipment valued at $146 million. Bid deadline is July 3. Bid should offer telephone exchanges, cable, microwave and associated equipment. Copies of tender announcement and specifications are available from the Treasury Division of the TOT, Ploenchit Rd., Bangkok, for $250 per set.

JAMAICA—A World Bank-financed project calls for the supply, c.i.f. Kingston, of **flow and measuring equipment for the Rio Cobre Water Supply Scheme.** Equipment comprises flow and water level indicators, integrators, transmitters and recorders and includes a control desk incorporating a mimic diagram. Contract also includes a visit by an engineer to commission the equipment after it has been installed. Tender No. S4A, bid deadline July 17. On payment of a deposit of $100 Jamaican, payable to the Water Commission, Jamaica, tender documents may be obtained from the Consulting Engineers: Howard Humphreys & Sons (Jamaica), 4 Marescaux Rd., P.O. Box 17, Kingston. Additional copies of documents will be supplied on payment of a further $30 Jamaican per copy. Deposits will be refunded upon return of documents or on receipt of bona-fide tender. Project worth an estimated $90,000.

KOREA—The Government's Office of Supply requests bids for **two lots of mineral fiber acoustical tile.** Lot one is 1,302 square meters of granular-textured pattern of sand finish with pin holes, Federal spec. SS-S-118A, beveled, and 12 mm × 303 mm × 606 mm in size. Lot two is 12,558 square meters of fissured pattern, Federal spec. SS-S-118A, square type, and 12 mm × 606 mm × 606 mm in size. Bid deadline is 2 p.m., June 30. Copies of the invitation to bid are available from the Construction and Building Materials Program, BDC-742, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-3601).

Venezuela Preselecting Bidders For Airport Work

The Venezuelan Ministry of Public Works has opened preselection procedures for civil engineering and the supply of an electric power substation at Maiquetia Airport (Bid No. L-72 MIW-3). Construction companies are requested to present qualifying documentation for the execution of fencing, earth moving, laying of concrete drainage pipes, fills, ditch digging, pouring of asphalt-concrete mixture, landscaping and irrigation to avoid dust during the construction.

The U.S. Embassy in Caracas doubts that any foreign company not presently working in Venezuela will win the contract. However, in case any company is interested, it should present its qualifying documentation on July 16 in the Conference Room of the Oficina Ministerial del Aeropuerto de Maiquetia, Zona Rental, Plaza Venezuela, Caracas.

A related project (Bid No. L-72-MIQ-4) calls for the supply, factory testing and installation of electric sub-station equipment to convert 69 kv. to 15 kv. The specifications may be obtained from the Embassy of Venezuela, 2445 Massachusetts Ave., NW., Washington, D.C. 20008. The specifications also contain the list of documents which have to be presented to be qualified. These documents have to be presented at the Caracas address cited above on July 13.

Copies of the official notice (which provides information on the quantities of work involved, along with a list of documents required to be submitted for prequalification) may be obtained from the Construction, Water Resources & Eng. Div., BDC-742, U.S. Dept. of Commerce, Washington, D.C. 20230 ★(202-967-3602), and the U.S. Dept. of Commerce Field Office, 11444 Federal Bldg., 450 Golden Gate Ave., San Francisco, Calif. 94102 ★(415-556-5864).

Singapore Firm Announces Bids For Various Process Chemicals

Mitchell Cotts & Co. of Singapore has expressed interest for purchase of process chemicals for plastics production and other products, as follows: clays for making PVC insulated cable compounds, (approx. ten tons a month); epoxy plasticizer and stabilizers (approx. $335,000 a year); carbon black; calcium bicarbonate; titanium dioxide; granular sodium bisulphate; and chemicals for making light weight concrete roofing. Interested U.S. firms contact: Mitchell Cotts & Co., (Fareast) Ltd. 39 Stamford Rd. (P.O. Box 355) Singapore 6, Singapore. Cable: "MITCOTTS," Singapore, phone 39200, Attn: Andrew Tan, Sales Coordinator.

Future Construction Abroad

MEXICO—The Secretaria de Recursos Hidraulicos has called for registration of firms interested in bidding on **several construction projects** that are partially financed by an Inter-American Development Bank Loan. Applications and details can be obtained from Direccion General de Pequena Irrigacion, Paseo de la Reforma No. 69, 7° piso, Mexico, D.F.

CANADA—Several apartment and office building projects in the Vancouver area which are already under way or scheduled to begin shortly have invited U.S. firms to submit bids on supplies and equipment. **A 214-unit apartment building** in Richmond—Write: G. F. Mulek, president, Westsea Construction, 1330 Harwood, Vancouver, B.C. **A $5.7 million office building** in Vancouver—Write: T. Furch, estimator, Dawson and Hall Ltd., General Contractors, 735 Clark Drive, Vancouver 6, B.C. **A $4.5 million shopping center** in Coquitlam — Write: Thomas Simpson, chief estimator, A&B Construction Co. Ltd., 2595 McCulloch Rd., Nanaimo, B.C. **A hotel and office building** in Richmond—Write to: Mr. Skipond, Vancouver area manager, Western Realty Projects Ltd., 1075 West Georgia St., Vancouver, B.C.

Also, a spokesman for the Canadian Northwest Study Group's comments that the actual cost of a **proposed natural gas pipeline** from Alaska to the Canadian and U.S. Midwest will be twice the original estimate of $2.5 billion are available from, BDC-584, U.S. Department of Commerce, Washington, D.C. 20230.

FRANCE—Planned construction projects include:
Four **food plants: Dried pet foods**—Rene R. Dougin, commercial manager, Societe Gloria, 14 Rue Bassano, 75-Paris 16e (tel. 720-3729). **Commercial bakery**—Mathias Bellek, commercial manager, Societe Bauernfeind & Cie, 29 Rue Bauer, 57-Forbach (tel. 85-30-77). **Mushroom canning** — Michel Loyant, commercial manager, Societe Royal Champignon, 49-Longue (tel. 52-11-60). **Cat and dog food**—Pierre Bonnavaud, commercial manager, UNI-SABI, 1, Rue Metzeral, Neudorf, 67-Strasbourg.

Industrial waste incinerator in Gignac—Mr. A. Chene, president and gen. mgr., SOPROVID, 11-13 Rue Bandini, 13–Marseille.

Steam cracking plant near St. Avold in the Moselle—Mr. Mouchard, Ingenieur en Chef Adjoint du Bureau d'Etudes, Societe Chimique des Charbonnages, 57 St. Avold.

Telephone commutation equipment plant at Orvault, near Nantes—Le Materiel Telephonique (LMT), 46 Quai Alphonse de Gallo, 92-Boulogne-Billancourt. Attn: Secretariat de Monsieur Philippe Lizon. **Automatic mail sorting center** for the postal center at Orleans—Ministere des Postes et Telecommunications, Bureau B-3, Direction des Services Postaux, Mecanisation Postale, 20 Ave. de Segur, Paris 7.

New $35 million, 2,000-bed hospital complex at Strasbourg—For bidding information, get the Bulletin Officiel des Marches from the Direction de Journal Officiel, 26, Rue Defaix, Paris 15; for construction details, contact Mr. Faitrop, Director de l'Hopital Civil, 1, Rue de l'Hopital, 67 Strasbourg. Architect is J. P. Berst, 16, Ave. de la Paix, 67 Strasbourg.

Equipment for a large foundry at Ayvelles, near Charleville-Mezieres in the Ardennes—Georges Falconnet, Directeur du Service, Approvisionnements et des Achats, Automobiles Citroen, 133, Quai Andre Citroen, 57–Paris 15.

A silicone producer's new unit to turn out **methylcholorosilanes** at its Roussillon (Isere) plant—Bureau des Etudes, Rhone-Poulenc, 22 Ave. Montaigne, Paris 8.

A toluene diisocyanate TDI production unit extension at La Madeleine les Lille—STEC, 192 Grande Rue, 92–Sevres (tel. 626-1400).

A formaldehyde production unit in Lamotte—CDF Chimie, Tour Aurore, Cedex 5, 92–Paris Defense.

FRANCE—Growing concern about industrial pollution at the port and industrial project at Fos, near Marseille, has caused the French Government to adopt a series of **severe measures to detect, control and prevent pollution** there. Because of the U.S. lead in anti-pollution equipment and the French Government's insistence on the introduction of the most modern systems, there is clearly a chance for the sale of U.S. goods and engineering services. The American Embassy in Paris has provided the Trade Opportunities Staff, BDC-584, U.S. Department of Commerce, Washington, D.C. 20230, with the names and addresses of major companies in the Fos area. For further information on the antipollution measures, write to: M. Poirier, Ingenieur-en-Chef, Service des Mines, 37, boulevard Perier, 13-Marseille 08, France.

JAMAICA—U.S. builders and suppliers can bid on several projects: **Forty-six schools** are to be built with the proceeds of a World Bank loan; Write: H. B. Gilbert, Ministry of Education, 5 South Race Course, P.O. Box 498, Kingston. For a list of materials to be purchased, write BDC-584, U.S. Department of Commerce, Washington, D.C. 20230.—**Seventeen fully-mechanized banana processing plants**; write Banana Board, 10 South Ave., Kingston 4. For contractors' addresses or a blueprint of prototype plant, contact BDC-584, U.S. Department of Commerce, Washington, D.C. 20230—A **furniture factory** will need woodworking tools and machinery; write Whitecraft (Jamaica) Ltd., c/o Fletcher & Co., Ltd., 16 Harbour St., Montego Bay—**A small sewage treatment plant** is needed at a major construction site; write Lloyd Gibson, managing director, Lloyd's Property Development Ltd., 15 Old Hope Rd., Kingston 5. A blueprint of the project area is available from BDC-584, U.S. Department of Commerce, Washington, D.C. 20230.

VENEZUELA—The Ministry of Mines and Hydrocarbons has announced preliminary plans for the construction of an iron ore shipment port near Matanzas in Bolivar State. The major part of the project will be a pier capable of loading ships up to 80,000 tons and loading equipment with a capacity of more than 3,000 tons per hour. Write: Dr. Alvaro de Castro, Director de Minas, Ministerio de Minas e Hidrocarburos, Torre Norte, Centro Simon Bolivar, Caracas.

COLOMBIA — Ricardo Iragorri and Mauricio Abitbol plan to build a **30-story Bogota hotel,** with 12 rooms per floor and 45 square meters per room. Total cost is estimated at $4 million. Contact Ricardo Iragorri, "Iragorri & Abitbol Ltda. ASCOT", Carrera 41, No. 12-33, Bogota.

KOREA—The Government has obtained a $48 million IBRD/IDA loan for the **Yongsan River (Yong San Gang) Basin Development Project,** and the Agricultural Development Corp. (ADC) will shortly prepare specifications for about $800,000 worth of commodities. These include radio equipment for communications between ADC in Seoul and the project office on site in Cholla Namdo, about 130 miles distant; survey equipment; a small number of jeeps and trucks; meteorological apparatus, and water quality testing equipment. U.S. firms interested in bidding should forward their prospectus and specifications to ADC. They may contact Mr. Jai Han Yoon, Head, Yongsan Gang Project Office, or Mr. Moo Soon Ahn, Chief, Planning Office, Agricultural Development Corp., Ssangyong Bldg., 24-1, 2-ka, Jeodong, Chung-ku, Seoul 100.

THAILAND—The Metropolitan Waterworks Authority (MWA) will build a new **water treatment plant and four additional pumping stations.** This project will cost over $50 million and involves: building and installation of a complete water treatment plant at Bangkhen, capable of handling 1.2 million cubic keting tie-up and the supply of equipstations and installation of pumps at four different locations; laying of pipes connecting the main water treatment plants and substations.

Engineering survey and design work have been completed by Camp, Dresser, and McKee, 6 Larn Luang Rd., P.O. Box 2-55, Bangkok. Tenders for construction and purchase of equipment are expected early in 1973. Write: Amnuey Panich, Project Director, Metropolitan Waterworks, Water Treatment Plant, Rama-6 Rd., Klongprapa, Bangkok.

FRANCE—SONACOTRA, the agency in charge of planning the "Centre-Sud" district of Paris, in Bagnolet, has the following projects under consideration: **three hotels,** comprising approx. 1,350 rooms (one, containing 600 rooms is being built by NOVOTEL and will open in 1973); **1,244 apartments;** 133,000 sq. meters of **office space;** a 10,000 sq. meter **commercial center;** a 5,200 space **parking area and a sport center.** Completion is programmed for 1976. Contact: Guy Pellenec, Director, SONACOTRA, Direction de l'Amenagement Urbain (DAMUR), 5, rue Henri Rochefort, 75–Paris 17e, Tele: 622-0121.

TURKEY—Expansion of the integrated Eregli steel plant, aimed at increasing its ingot equivalent capacity to approx. 1.8 million metric tons by 1975, has commenced. Loans requested from the World Bank and AID would be used to purchase machinery and equipment through international competitive bidding. The principal facilities to be so purchased are a battery of 85 by-product coke ovens and by-product equipment; a 29 ft., 6 in. hearth diameter blast furnace

(approx. 9.0 meters); a 200 m.t. per day oxygen producing plant; a 95 m.t. capacity B.O.F. vessel and related drives, controls and auxiliaries; a 300,000-m.t.-per-year billet continuous casting machine with all auxiliary facilities; a power plant with two boilers, one turbogenerator and one turboblower, complete with all auxiliaries; a 1,000-m.t.-per-hour ship unloader for iron ore and coal; two 130-m.t.-per-hour slab heating furnaces; a 60 in. continuous, sulphuric acid type coil pickling line; a plant normalizing furnace; a twin side plate shear; fabricated structural steel for mill buildings; a salt water pumping station; a fresh water pumping and clarification station; electric power distribution facilities; rail, rail switches and track hardware; ETO cranes from 20 m.t. to 125 m.t. capacity; 180 m.t. torpedo ladles. Invitations to bid will be furnished only to firms which have qualified for the specific items to be purchased. Firms wishing to be qualified should write before June 15 to: Eregli Iron and Steel Works, Room 700, Chamber of Commerce Bldg., 411 Seventh Ave., Pittsburgh, Pa. 15219 for information as to the prequalification requirements.

PERU—A copy of a *Peruvian Times* article dated March 17, announcing plans to build **seven petrochemical plants** in the Lima/Callao area is available from the Business Opportunities Division, BDC-584, Room 4813, U.S. Department of Commerce, Washington, D.C. 20230.

BOLIVIA—Liquid Carbonic de Bolivia S.A., Calle Salinas Vega 219, La Paz, plans to build an **acetylene plant** in either La Paz, Santa Cruz or Cochabamba, with the two former cities being preferred. Although incorporated in Bolivia and staffed by Bolivians throughout, about 75% of Liquid Carbonic's shares are owned by the Houston Natural Gas Co.

SPAIN—Brief descriptions of **four major Spanish projects** which may offer export opportunities to U.S. suppliers and consultants are available from the U.S. Department of Commerce, Business Opportunities Division, BDC-584, Rm 4813, Washington, D.C. 20230. The projects are 1) Third Railway Project-RENFE, 2) World Bank-Spain Education Project, 3) Second Tenerife Airport and 4) Astilleros Espanoles Cadiz Shipyard & Drydock.

TRUCIAL STATES—The New York-based Intercontinental Hotel Corp. will build and manage a **240-room hotel in the Persian Gulf Sheikhdom of Dubai.** As is normally the case with Intercontinental Hotels, capital for the $8 million enterprise will be provided by local businessmen while Intercontinental (a Pan American Airways subsidiary) will plan and supervise the construction, and manage the hotel when it opens. Located on a choice site overlooking Dubai's picturesque "creek", the new hotel will include among other features a swimming pool and rooftop restaurant. U.S. firms desiring further information should write to: Inter-Continental Hotels Corp., c/o Hotel Phoenicia Inter-Continental, Jbeil St., Beirut, Lebanon.

AUSTRIA—A recent meeting between representatives of the Austrial Oil Adm. (OeMv), Otta Wagner Pl. 5, 1091 Vienna, and SNAM of the Italian ENI group, reached agreement on several technical aspects of the projected **Trans-Austria (TAG) natural gas pipeline.** The pipe diameter will be 36 inches for the first 210 kilometers; the diameter for the remaining 170 kilometers to the Austrian-Italian border was set at 34 inches. Initial transport capacity will be ten billion cubic meters of natural gas, at a pressure of 70 atmospheres. Actual construction will start this autumn. Tenders for about 120,000 met. tons of pipe sheets, as well as for armatures and fittings, will be issued soon. If present progress holds, completion of the pipeline can be expected in May 1974.

NEW ZEALAND—The Auckland Harbour Board, P.O. Box 1259, Auckland, is waiting for New Zealand Ports Authority approval to **complete the Fergusson Wharf terminal in the Port of Auckland.** AHB plans to extend the Fergusson Wharf berth to 1800 ft.; construction of a large cargo shed for packing containers; finish the quayside extension to 1500 ft.; pave three acres of reclaimed land at the container terminal. This project will cost about NZ $2.2 million and NZ $1 million for a second crane.

SINGAPORE—The Singapore Telephone Board obtained an $11 million World Bank loan to partially finance its **five year (1970-75) development plan.** Under this plan, estimated to cost a total of $33.7 million, the STB expects to provide 109,000 new direct exchange lines and 163,000 new telephones. For details on the Telecommunications III project, write the Manager, Singapore Telephone Board, Telephone House, Hill St., P.O. Box 3008, Singapore 6.

CANADA—Construction of a $1.2 million, 113-units, **senior citizens lodge** in Vancouver, is expected to commence about September and to be completed in September or October 1973. U.S. suppliers are invited to bid on supplies and equipment, particularly boilers, radiators, elevators, asbestos tile, carpeting and pumps. All inquiries should be addressed to the architect in charge of the project: John Mercer, Mercer and Mercer, Architects, 675 West Hastings St., Vancouver, B.C.

MEXICO—Hojalata y Lamina, S.A. (HYLSA) has the following firm expansion plans: *1973*: One reversible cold rolling mill (preferably used), twenty-five million pesos; three annealing ovens, three million pesos. *1974*: One pickling preparation line; one coiler; one uncoiler; one straightener; one "up-cut" shear; one gas welding machine; one side trimmer with scrap chopper; two annealing furnaces, grand total eight million pesos. *1975*: One electric oven (new); two annealing furnaces, nine million pesos. *1976*: One new pickling line; one four-stand tandem cold rolling mill; four annealing furnaces; one shearing line, grand total eighty million pesos. Interested U.S. firms may contact Hojalata y Lamina, S.A., Avenida Cuidad de los Angeles at Ote, San Nicolas de los Garaga, N.L., P.O. Box 996, Monterrey.

KOREA—A Republic of Korea Government Economic Planning Board official confirmed that the Government has applied for a $3.7 million Asia Development Bank (ADB) loan to help finance the construction of **five vocational or skilled labor institutes.** The loan will be used to import equipment for the training schools. Interested U.S. firms should contact Mr. Ih-Chang Cho, Administrator, Office of Labor, Government of the Republic of Korea, #27-1, Supyo-dong, Chung-ku, Seoul.

ARGENTINA—Agua y Energia Electrica, the major state power company, will provide the technical administration for the **construction and operation of the Ullum dam.** Inter-Americas Development Bank financing is to cover purchases of imported equipment. Sales opportunities for U.S. firms may be created by this project, principally in turbine generating equipment, transformers and transmission material. Manufacturers of construction equipment may also be interested in the project. The construction firm building the dam is Panedile Argentina, S.A., Sarmiento 1967, Buenos Aires. Other contacts for interested U.S. firms are: Ing. Adriano Borus, Gerente de Programacion e Ingenieria, Agua y Energia Electrica, Lavalle 1554, Buenos Aires. Ing. Franco J. Toso, Gerente Departamento Representacion BID Obras Electricas, same address. Ing. Alfredo U. Gutierrez, Departamento Representacion BID, same address.

INDIA—Fertilizer Corporation of India Ltd. (FCI), Chembur Bombay 74, the biggest public organization engaged in the production of fertilizers in the country, is currently negotiating with the World Bank for a $15 million IDA loan for the **Trombay Expansion Plant (TEP).** The expansion program, envisaging an investment of about $5 million, will make the Trombay unit the biggest fertilizer complex in the country. The entire designing and planning of the expansion program is being handled by FCI's own engineers and technicians. The proposed IDA credit would be mainly utilized for necessary imports. A listing of some of the items which are likely to be included is available from Business Opportunities Division, BDC-584, Rm 4813, U.S. Department of Commerce, Washington, D.C. 20230. FCI will be directly responsible for importing the equipment on a global tender basis.

FINLAND—An agreement on the expansion and modernization of the pulp and paper industry complex in Svetogorsk in Soviet Karelia was signed by representatives of the Finnish and Soviet governments in Helsinki on March 17. The total value of the project is expected to reach $120 million. The annual sulphate pulp output of the plant will be increased from 80,000 to 135,000 metric tons. Finnish construction firms will be responsible for the planning and completion of the construction work. A commercial construction contract was also signed on March 17 by representatives of a Finnish consortium of construction companies, Finn-Stroi Oy, and the Soviet organization Prommashimport. The commercial contract reportedly includes, in addition to the expansion of sulphate pulp capacity and the construction of a cable insulation paper plant, construction of a thermal power plant and a large biological waste water purification plant. The estimated value of the latter plant will be $9.75 million. The contract also calls for the construction of office buildings, a cafeteria, roads, railway and bridges as well as the installation of water and sewage systems. The total value of the commercial contract is estimated at $65 million. Interested U.S. companies should contact Mr. Kauko Rastas, Managing Director, Polar-Rakennus Oy and Chairman of the Supervisory Board, Henry Fordinkatu 5, 00150 Helsinki 15.

BRAZIL—The continued expansion of the Brazilian **shipbuilding program** opens up a multi-million dollar market for U.S. equipment. With EXIMBANK support and an aggressive sales policy, U.S. manufacturers of shipbuilding equipment, especially navigational and radar equipment, automation equipment, winches and cranes, and mooring equipment should find a receptive market. A list of principal shipyards in Brazil is available to interested U.S. firms from the Business Opportunities Division, BDC-584, Rm 4813, U.S. Department of Commerce, Washington, D.C. 20230.

ARGENTINA—A new agency called the Administration for Large Aqueducts has been created within the Subsecretariat of Water Resources in order to develop and carry out plans for the construction of a system of **three major potable water distribution developments** in Central Argentina. The project will cost approximately $215 million. Interested U.S. consulting, engineering companies and equipment suppliers should contact Dr. Guido C. Huidobro Saravia, Director, Direccion Nacional de Fomento Hidrico de Interior y Rios Interprovinciales, 25 de Mayo 459, Buenos Aires.

AUSTRALIA — The Australian Paper Manufacturers (APM) have announced preliminary plans for an A$9 million, 70,000-ton-per-year **eucalyptus pulp plant** for Coffs Harbor, on the coast of northern New South Wales. Construction is expected to begin in 1977. Approx. 10,000 acres are now under planting and additions are running at the rate of 1,500 acres per year. Interested U.S. suppliers of services and equipment for the paper making industry may contact: Australian Paper Manufacturers, 4 South Gate, P.O. Box 1643N, Melbourne, Victoria 3001.

BRAZIL — Frota Oceanica Brasileira plans to build **four 40,000-ton bulk carriers** when approved by the Brazilian National Superintendency of Merchant Marine. Most of the components (navigation aids, radar, communications equipment, signalling equipment, marine safety equipment, motor and engine components) will have to be imported by the shipyard receiving the contract. The contract probably will be awarded to one of the following three local shipyards: Ishikawajima do Brasil Estaleiros S.A., Av. Presidente Antonio Carlos 607 sl., Caixa Postal 3137, Rio de Janeiro, GB, Attn: Yoshinobu Ohori, exec. vice president; Verolme Estaleiros Reunidos do Brasil S.A., Rua Buenos Aires 68—10° andar, Rio de Janeiro, GB, Attn: Augusto Lefreve, industrial director; Estaleiros Maua S.A., Avenida Erasmo Braga 255, Rio de Janeiro, GB, Attn: Paulo Marcondes Ferraz, president.

FRANCE—To accommodate rising traffic, the **Bordeaux Airport will undergo modernization and expansion** over the next few years. U.S. firms interested in supplying equipment in connection with this project are urged to write to: Chambre de Commerce et d'Industrie, Service Amenagement de l'Aeroport de Bordeaux-Merignac, Palais de la Bourse, Place Gabriel, 33-Bordeaux.

CANADA — Construction on Whistler Village, a **new ski resort village** 80 miles north of Squamish, British Columbia, is expected to commence about mid-June. The project is valued at between $25-$30 million. The developer invites U.S. companies to bid on supplies and equipment. Write: Mr. McGregor, McGregor Pacific Realty Ltd., 636 Clyde, West Vancouver, B.C.

INDIA—The Government of India approved in late March the construction of an electrified, 16.43-kilometer **underground rapid-transit system for Calcutta** at a cost of $186.66 million. Even though neither the procurement procedures nor the likely means of financing have been announced, the Metropolitan Transport office hopes that construction will start within a year and be completed by 1980. Plans are underway also for similar rapid-transit/underground transportation systems in Bombay, Madras and New Delhi. Interested U.S. companies can obtain further details from: G. N. Bhattacharya, Director, Metropolitan Transport, Railway Board, Raisina Rd., New Delhi. Descriptive material supplied by Mr. Bhattacharya on the Calcutta subway is available from the U.S. Department of Commerce, Business Opportunities Division, BDC-584, Washington, D.C. 20230.

THAILAND—The National Executive Council has approved construction of a fifth bridge across Chao Phya River linking Bangkok and Thonburi. When financing is approved, an international tender will be called for the engineering survey, design and supervision, and construction. U.S. firms interested in obtaining more information may write to: Public and Municipal Works Dept., Pan Fah Bridge, Larn Luang Rd., Bangkok. Attn: Damrong Cholvijarn, director-general, or Thongjune Singhakul, project director, Planning Division.

CANADA—The Department of Transport has announced its choice of the design concept for the **first terminal building at the new Montreal International Airport** at Ste. Scholastique. It will be a compact, single level terminal building with passengers brought to and from parked aircraft in mobile lounges similar to those at Dulles Airport in Washington. Tenders should be called during 1972 for the construction of the terminal, as well as for a thermal plant, waste treatment plant, water system, and electrical installations. American firms wishing to propose new equipment can contact the Project Manager, International Airport Consultants of Montreal Ltd. (CAIM), 1550 de Maisonneuve Blvd. West, Montreal 107.

PARAGUAY — Several proposed construction projects to build **additional air facilities** may interest U.S. firms: a new $6 million airport terminal for Asuncion; upgrading the field at Puerto Presidente Stroessner to act as a second major international airport; improvements to fields at Concepcion, Pilar, Mariscal Estigarribia, Encarnacion and Filadelfia. U.S. firms should send inquiries to: Excmo. Senor Ministro, General de Division (SR) Don Marcial Samaniego, Ministerio de Obras Publicas y Comunicaciones, Calle General Diaz y Alberdi, Asuncion. Send at least three extra copies of inquiries and literature.

IVORY COAST—A $6 million **factory for the drying, cleaning and bagging of coffee** at Yamoussoukro is planned by the Ministry of Agriculture to begin operation in October. U.S. firms interested in supplying equipment or construction services are invited to submit their names for pre-selection to SEPRIC (Societe d'Etudes pour la Promotion de l'Industrie Cafeiere), B.P. 21165, Abidjan, Ivory Coast. Firms should indicate on which of the tenders listed below they wish to bid. SEPRIC will respond with a call for bids for each tender. Details may be obtained from the French firm handling engineering studies, at either of the following addresses: SOCALTRA, 5 Bis, Rue des Graviers, 92-Neuilly sur Seine, France (Tel.: 722-10-80, Telex 62944), or from SOCALTRA's Abidjan representative, A. Korner, B.P. 11670, Abidjan, Ivory Coast (Tel.: 32-10-49, poste 508). Information may also be obtained from the U.S. Department of Commerce, Africa Division, BIC-884, Washington, D.C. 20230, ★(202-967-2437). The following tenders are open to bidders: 1) grading roads and drainage. 2) foundation and structural work. 3) roofing and siding. 4) carpentry. 5) metalworking and locksmithy. 6) glass and paint work. 7) plumbing and fire protection. 8) light and power supply. 9) telephone and telex. 10) climate control. 11) landscaping. 12) laboratory. 13-23) equipment for receiving, drying, storage, decortication, density grading, color grading, cleaning and bagging of coffee beans. 24) vehicle scales. 25) maintenance and dust removal. 26) thermal power station: furnace, steam plant and turbine generators, to use coffee bean husks as fuel. 27) thermal power station: electrical and security systems. 28) miscellaneous and additional items.

MEXICO—The Secretaria de Recursos Hidraulicos has announced two projects calling for registration of bidders. The projects involve construction of a storage dam in the Municipio Villa Union de Tula, Jalisco (No. P.I. 72-15), and construction of an irrigation system in Municipio de Coatepec de Harinas, State of Mexico (No. P.I. 72-16). Applications and details of the projects can be obtained from Direccion General de Pequena Irrigacion, Paseo de la Reforma No. 69, 7° Piso, Mexico, D. F. A set of the application forms is available for review in Room 2116 of the Construction, Water Resources & Eng. Div., U.S. Dept. of Commerce, Washington. D.C. ★(202-967-3602) and in the U.S. Dept. of Commerce Field Office, 11444 Federal Bldg., 450 Golden Gate Ave., San Francisco, Calif. ★(415-556-5864).

Firms must be registered with the Secretaria de Recursos Hidraulicos, Oficina de Registro e Informacion, Antonio Caso No. 19, 5° Piso, Mexico, D.F. Bidders must be prepared to furnish information concerning their professional background, technical capacity and experience, as well as evidence that their equipment and financial capacity are adequate to complete the projects.

SPAIN—The Puerto La Luz (Las Palmas, Canary Islands) **Port Expansion Project** may offer export opportunities to U.S. suppliers. The project will consist of dredging additional harbor area, extension of breakwater, construction of docks. Approximately $15 million will be used for dredgers and construction equipment and $15 million in cranes and material handling equipment. Dredging and construction work will be performed by Dragados y Construcciones, S.A. under negotiated contract. Interested U.S. firms may contact one of the following:

Ilmo. Sr. D. Marciano Martinez Catena, Director General de Puertos y Senales Maritimas, Ministerio de Obras Publicas, Nuevos Ministerios, Madrid, Spain; or Sr. D. Juan Argenti, Director, Puerto de la Luz, Las Palmas de Gran Canaria, Canary Islands.

THAILAND — The Provincial Water Supply Division of the Department of Public and Municipal Works has drafted a long term $10 million project to improve rural potable water supply facilities. The project includes plans to establish a "Water Works Development Center" in each of the Central, Northern, Northeastern, and Southern administrative regions; construction of about 20 water treatment and distribution plants each year; and installation of a number of artesian well water pumping stations in villages. A considerable amount of equipment probably will be purchased for this project, including diesel engines, electric motors, pumps, water treatment chemicals and equipment, pipes and water meters. U.S. firms interested in supplying equipment for this project should send their inquiries and catalogs to: Kasian Anabutr, director, Provincial Water Supply Div., Dept. of Public and Municipal Works, Bangkok.

CANADA—At a press conference held on April 6, Mayor Jean Drapeau unveiled the long-awaited architectural plans of **Montreal's stadium for the 1976 Summer Olympic Games**. The architect is Roger Taillibert of Paris. It is estimated that the stadium complex, which includes an adjoining swimming pool and velodrome, will cost $50-75 million. Announcement of tenders is expected this fall.

ITALY—Montedison plans to invest $3.25 billion during the four-year period from 1972 to 1975 in **plants and equipment** to complete projects already in progress and to initiate new projects now at the planning stage. Of this overall capital outlay, expenditure, 72 per cent will represent investment in chemicals. The Montedison Planning Division, as a privately owned company, is under no obligation to make public calls for offers and, in fact, always deals through private negotiations. Because of this practice, it cannot make available to U.S. suppliers information on detailed purchasing plans. American manufacturers that wish to participate in Montedison's investment program must, therefore, first make their products and services known to the technicians that are responsible for the selection of these commodities. Write to Ing. Annibale Rizzi, Manager for Technical Services, Planning Division (Sviluppo e Programmazione), Largo Guido Donegani 1, Milano, Italy.

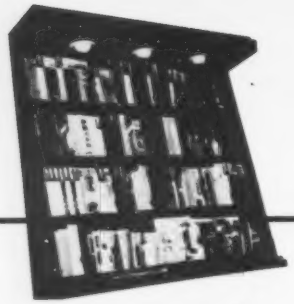
IVORY COAST—The Government of Ivory Coast is planning to go ahead with construction of a **60-megawatt thermal power station** (VRIDI III) adjacent to the existing plants in the Vridi area of Abidjan. Bid invitations, to be issued next month, will be restricted to the Electrical Energy Co. of Ivory Coast (EECI) firms because financing is reportedly available from the French Caisse Centrale (CCCE) EDF, and/or other European sources. Alsthom, builder of the existing plants, is already negotiating a contract for the new project. Interested U.S. engineering firms or manufacturers of generating equipment would have an uphill battle to win the project away from heavy French entrenchment. If, however, U.S. firms can propose costs and financing which are demonstrably more attractive than those currently being quoted by French firms, the Government of Ivory Coast may consider material or services of U.S. origin. Interested U.S. firms should communicate proposals, including a general indication of price and other terms, to H. E. Mohamed T. Diawara, Minister of Plan, B.P. 649, Abidjan, with a copy to Konan Lambert, Director General, EECI, B.P. 1345, Abidian. According to the 1972-75 plan, VRIDI III is to be in service by 1975. Two more such units may be built at Vridi if the Government does not go ahead with any of the hydro projects now under study at Tabo, Soubre, and Tiboto/Nyaake.

MEXICO—The Las Truchas Co. (CIA. Siderurgica Lazaro Cardenas Las Truchas, S.A.), announced on May 25 that it has opened a suppliers' pre-registry for 28 bid packages, worth some **$300 million in mill and auxiliary equipment** for the steel mill to be built at Melchor Ocampo in Michoacan State. Interested U.S. firms must send their qualifications and previous experiences by June 25 in letter to Las Truchas Company, Av. Melchor Ocampo 469-7 Piso, Mexico, 5 D.F., or by telegram, Sidetruc, or by telex 017-73-147 (brief resumes of experiences and qualifications will be accepted by telegram or telex). The bid specifications will not be available until about mid-summer, with probable bid deadline by Dec. 31. Following is a summary of the categories of equipment to be solicited: 200-ton-per-hour ore crushing plant at mine site; container-handling crane; 600-ton-per-hour coal unloaders; supply conveyors up to six kilometers in length; railroad gondola tipper/unloader; slurry pumping plant and 22-kilometer ore slurry duct; 800,000-ton-per-year coking ovens and subproducts plant; gas-metering systems for coke ovens and blast furnaces; 3.5-million-ton-per-year, three-stage ore crushing plant; ore concentrating plant; 2.2 million-ton-per-year pelletizing plant; 4,000-ton-per-day blast furnace; BOF plant with two convertors (150-ton-per-day each); 440-ton-per-day oxygen plant; two continuous-casting operations with six lines each to produce booms of 280 by 250mm section; 95,000-ton-per-year limestone treatment plant; ten-position rolling mill with 1.4-million-ton-per-year capacity for steel billet; 500,000-ton-per-year rolling mill for commercial shapes; 500,000-ton-per-year rolling mill for bar and rod; two bloom-reheating units with 150-ton-per-hour capacity; two billet-reheating units with 120-ton-per-hour capacity; two turbo-generators with 12.5 milliwatts each. 13.8 kilovolts; two 100-ton-per-hour boilers for superheated steam; two turbo-tuyeres (blast-furnace blowers) of 300,000 M3N per hour capacity; traveling cranes of various capacities between 5 and 250 tons; electrical distribution equipment; rolling-mill power transmission equipment and controls; supplementary mechanical equipment.

BRAZIL—The Governor of Sao Paulo State announced that his government plans to spend about **$424 million by the end of 1975 in building new highways and improving existing roads**. The Highway Plan for the Development of the Interior-Proinde is programmed to involve work on 5,000 kilometers of highways, equivalent in distance to about half of the existing paved state roads. This program offers business opportunities to U.S. exporters of construction equipment and possibly to engineering firms and contractors working in conjunction with local firms. Companies interested in contacting the state government about Proinde may write directly to: Dr. Paulo Salim Maluf, Secretary of Transportation, Av. do Estado 777, Sao Paulo, SP—Brazil.

IRAN — Harza Engineering International, Chicago, consulting engineers to the Khuzestan Water and Power Authority, is preparing specifications for three projects in South Iran: (1) The Gotvand Irrigation Project involves the construction of a **diversion dam (earth-fill composite dam—central part concrete**—27 meters high). Total cost of the dam and irrigation facilities for 38,000 hectares is estimated at $30 million (60% for irrigation facilities and 40% for construction of the diversion dam). Specifications for the diversion dam and the bulk of the irrigation facilities should be ready by early 1973, although there may be a smaller canal-lateral contract for 5,000 hectares ready by late 1972. (2) Marun Project construction of Nader Shah Dam on Marun River 19 km. north of Behbehan. The cost of the **Nader Shah Dam, a 165-meter high rock-filled structure** to be used exclusively for irrigation, is estimated at between $35-40 million. Harza is currently drawing up specifications and the project should be up for tender in late 1973. (3) Behbehan irrigation facilities are downstream from Nader Shah Dam. The area included in this project is 13,500 hectares at an estimated cost of $7-8 million. This project should be up for tender in mid to late-1973. Although not included in this project, it is anticipated that since the Nader Shah Dam will provide water for 55,000 to 60,000 hectares, there will be additional irrigation construction for an additional 42,000 hectares in the greater Behbehan area.

JAMAICA—Construction of a **large plastics factory** for Thermo-Plastics (Jamaica) Ltd. is underway in the Jamaica Industrial Development Corp.'s Twickenham Industrial Park. The almost $4 million project will be completed by September. The main building comprises almost 22,000 sq. ft. and will house sophisticated PVC (poly-vinyl chloride) manufacturing and forming machinery ordered from Germany. A wholly-owned subsidiary, Uniplas Jamaica Ltd., will fabricate heavy duty industrial crates and cases in the new facility. The parent firm will manufacture PVC compression pipes up to and including 18 inches in diameter, pipe fittings, plastic bath tubs, toilet cisterns and sinks. The company already makes small diameter PVC pipe, plastic dinnerware and other household utensils in its present plant. Developer—Thermo-Plastics (Jamaica) Ltd., 45 Elma Crescent, Boulevard P.A., Kingston, Tel.: 935-2390. Electrical Engineering Consultants—Warren Anderson & Associates, 1b Oxford Rd., Kingston 5, Tel.: 936-5593. Engineering Consultants—Ffolkes, Harrison & Assoc., la Oxford Rd., Kingston 5. Contractors—Antilles Construction Co. Ltd., 53 Molynes Rd., Kingston 10, Tel.: 923-6475.



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Isotope development programs research and development: 1971 (TID-4067). Division of Applied Technology, AEC, Washington, D.C. 160pp.

A bibliography for management support systems (AD-740 114). Stanford Research Institute, Menlo Park, Calif., 35pp. Bibliography pertinent to design and evolution of information systems for use by managers.

Catalog of Federal domestic assistance: magnetic tape of program description text and coded characteristics (1971 updated), (PB-207 823). Office of Management and Budget, Washington, D.C. $55, 1 reel (Please specify recording mode desired: (1) 7-track 556 or 800 BPI and odd or even parity, or (2) 9-track, 800 BPI, odd parity).

Microcircuit reliability bibliography (AD-740 131). Reliability Analysis Center (IITRI), Chicago. Paper copy only, $40, 430pp. Contains complete bibliographic information with abstracts for more than 2,200 references.

Inland waterway transport policy in the U.S. (PB-208 668). Wyoming Univ., Laramie. Paper copy $6.75. 266pp.

Retirement expectations of middle-aged men (PB-208 534). Ohio State Univ., Columbus. Paper copy $4.50. 68pp.

The Black American (AD-739 402). USAFE Reference Library, APO New York. Paper copy $4.50. 102pp. Bibliography of printed and audio-visual materials about black Americans.

Feasibility of Federal assistance in urban mass-transportation operating costs (PB-208 540). Urban Mass Transportation Admin., Washington, D.C. Paper copy $5.45. 138pp.

The following reports providing background for the National Water Commission's deliberations on national water policy are available. Reports are being released through the National Technical Information Service to stimulate public discussion of water resource policy issues:

Legal and governmental structures for water management in metropolitan areas (PB-204 051). U. of Maine for the National Water Comm. 98pp.

Hydroelectric power policy (PB-204 052). National Water Comm. 63pp.

Potential technological advances and their impact on anticipated water requirements (PB-204 053). National Academy of Sciences. 249pp.

Institution for water planning — institutional arrangements: river basin commissions, inter-agency committees, and ad hoc coordinating committees. 134pp.

State of the arts study of public participation in the water resources planning process (PB-204 245). U. of Michigan. 243pp.

Non-destructive testing: radiography (AD-733 860). Defense Documentation Center. 83pp. A bibliography of references pertaining to radiographic techniques for use in inspection and evaluation of electronic parts, fatigue of plates and weldments in steels, evaluation of metal fatigue, lack of penetration in aluminum fusion welds, small scale footing tests in clay, and evaluation of void content in epoxyglass filament wound material. All reports listed are available from NTIS.

Portable system for continuous analysis of environmental carbon dioxide (ORNL-IBP-71-7). OakRidge National Lab for the AEC. 31pp.

Feasibility and design of a prototype multi-level industrial building in Cleveland (COM-71-01098). Wm. A. Gould & Assoc. for EDA. 395pp. $6.

New approaches to automatic document processing (PB-205 605). Cornell U. 48pp. $4.75. Identifies those automatic procedures which appear most effective as a replacement for the missing language analysis and describes a series of computer experiments designed to simulate a conventional document retrieval environment. New mechanized approaches to document handling are proposed, including document ranking methods, automatic dictionary and word list generation, and user feedback searches.

The following reports concern an integrated management information system that can be applied to a wide range of administrative and management functions including enrollment, claims processing, payment surveillance and utilization review, and management and administrative reporting:

Medicaid management information system general systems design for Title XIX, Vol. I: Recipient subsystem and provider subsystem (PB-202 993-1). By HEW's Div. of Management Information and Payment Systems, Social and Rehabilitation Service. $6 (available only in paper). 268pp.

Same title, Vol. II: Claims processing subsystem and reference file subsystem (PB-202 993-2). $6 (available only in paper). 233pp.

Same title, Vol. III: Surveillance and utilization review subsystem (PB-202 993-3). $6 (available only in paper). 290pp.

Same title, Vol. IV: Management and administrative reporting subsystem (PB-202 993-4). $6 (available only in paper). 252pp.

Same title, Vol. V: Appendix—glossary and data element dictionary (PB-202 993-5). $6 (available only in paper). 274 pp.

The entire set of (five volumes) is available in paper copy at $18 or in microfiche at $9. . . . .Order: PB-202 993-set.

Assessment of aircraft emission control technology (PB-204 878). Northern Research and Engineering Corp., Cambridge, Mass. for EPA. 206pp. Discusses effectiveness of control methods (engine, fuel, and ground operations modifications), implementation costs and times of control methods (engine and ground operations modifications), and emissions measurement.

Exhaust gases from combustion and industrial processes (PB-204 861). Engineering Science, Washington, D.C. for EPA. 440pp. $6. Determines the extent to which operating variables and process throughput rates affect exhaust gas conditions and emission rates and recommends exhaust gas conversion factors to be used in development of implementation plans for air quality control regions.

Wastewater treatment technology (PB-204 521). Illinois Institute of Technology. 271pp.

Septic tanks and the environment (PB-204 519). Illinois Institute of Technology. 105pp.

Field operations guide for automatic air monitoring equipment (PB-204 650). By PEDCo.—Environmental Specialists Inc., Cincinnati, for EPA. State-of-the-art treatise on automatic equipment covering such things as: selecting the number and location of sampling stations; shelter design; instrumentation specifications; calibration; installation of equipment; routine operation; maintenance; and data logging.

Evaluation of city transit bus 'EIP' kits to reduce engine smoke, odor, noxious emissions and noise (PB-204 813). By Mitre Corp., McLean, Va., for Urban Mass Transportation Admin. 35pp. Evaluates General Motors, Environmental Improvement Program retrofit kit. Discusses design of the kit, performance and range of applicability to various bus models, and costs.

Background information—proposed national emission standards for hazardous air pollutants: asbestos, beryllium, mercury (PB-204 876). By Research Triangle Park, N.C., for Environmental Protection Agency. 30pp. Summarizes the proposed standards and reviews effects of the pollutants on health, the nature of the problem, development of the proposed standards, and their economic impact.

The barged ocean disposal of wastes: a review of current practice and methods of evaluation (PB-204 868). Environmental Protection Agency's Pacific Northwest Water Lab, Corvallis, Ore. 125pp.

Air pollution aspects of the iron foundry industry (PB-204 712). A. T. Kearney & Co., Chicago, for the Environmental Protection Agency. 260pp.

Aircraft emissions survey (PB-204 794). Transportation Systems Center, Cambridge, Mass. 37pp. Surveys transportation systems emissions monitoring requirements. Emissions of carbon monoxide, hydrocarbons, oxides of nitrogen, and particulates from aircraft power plants, with emphasis on gas turbine engines, are considered.

Evaluation of failure and failure related data (ANCR-1024). Aerojet Nuclear Co., Idaho Falls, for the AEC. 44pp. Describes techniques for evaluating failure data pertaining to components, subsystems, and systems. From basic types of data sources, failure rates can be determined, wear-out and degradations can be uncovered, environments causing unwarranted failures can be detected, objective quantitative assessments can be made on repair and maintenance effectiveness, and sub-par performers can be located.

Optimal control model of product improvement R&D (AD-735 075). Rand Corp. 34pp. $4.75. Develops a model of a program in which an organization attempts to improve performance of one of its systems subject to an arbitrary fiscal constraint which limits the rate of R&D spending on that system.

Measuring the opportunity cost of Government investment (PB-205 746). Institute for Defense Analysis. 36pp. $4.75. Discusses the cost-of-capital measure that should be applied to government or public investment projects. Report develops a method for measuring the cost empirically and applies it to obtain an empirical estimate of capital costs.

Educational advancement and manpower development for wage earners (PB-205 851). Rutgers U. 161pp. $4.75. Results of a study that explores ways of encouraging wage earners to make use of available educational and training resources to advance to higher skilled and better paying jobs.

Master international frequency list (PB-204 829). International Telecommunications Union, Geneva, Switzerland, magnetic tape $1045, 19 reels. (Please specify tape recording mode desired: (1) 7 track, 556 or 800 BPI, odd or even parity, or (2) 9 track, 800 BPI, odd parity). Contains particulars of radio frequency assignments between 10 kHz and 40,000 gHz and of assignments to broadcasting stations in Regions 1, 2, and 3, as recorded in the Master International Frequency Register. The list also contains an indication of those frequencies prescribed for common use by certain radio services and the allotments set forth in the several allotment plans of the International Telecommunications Union. The list is written according to the Data Tape Conventions for UNIVAC 1050 and supersedes PB-197 334.

A survey of plastic buckling (AD-732 053). U. of Wisconsin for the U.S. Army. 179pp.

Research programs on recycling and disposal of mineral-, metal-, and energy-based solid wastes (PB-205 663). Bureau of Mines. 71pp. $4.75. Summarizes Bureau of Mines research directed toward: (1) extraction of mineral, metal, and energy values from urban refuse; (2) upgrading and recycling of automotive and related ferrous and nonferrous scrap; (3) utilization of mine, mill, and smelter wastes; and (4) recovery and reuse of material from industrial waste products. Report includes an extensive bibliography.

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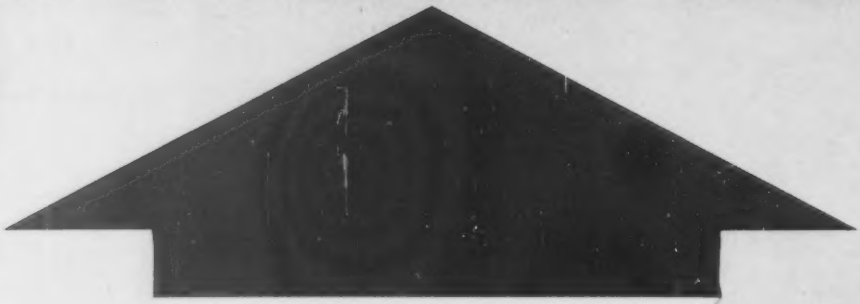

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